

Record

B.C. plants (Dr. Fletcher)

Rubus nutkanus - thimbleberry
Ceanothus sanguineus
Prunus emarginata - wild cherry
Populus tremuloides - aspen
Pachystima myrsinites - 1150 plant
Pseudotsuga douglasii
Betula papyrifera
Berberis aquifolium
Ribes sanguineum - sticky gooseberry
Epilobium angustifolium
Populus balsamea - balm o' gilead
Alnus rubra
Anaphalis margaritacea - Inaphalium
Hieracium albiflorum - 1167 weed
Shepherdia canadensis - soapberry
Ribes lacustre - thorny gooseberry

1123-1374

#1
25

Mosquitoes p 12, 21, 29, 31, 68, 110, 184 (1902-4)

Harrison G. Dyar
 Center Harbor
 N. H.

July 9 1902.

1123 slightly oblique
 Eggs by ♀ looper 18355 Center Harbor N.H. July 13 1902.
 Elongate elliptical, strongly rounded flattened on a
 side, narrowed toward the truncated end which
 is rounded, flattened, depressed at other end.
 Surface smooth but studded with elevated white
 granules, found at the crests of the pores at the angles
 of the obsolete reticulation. These granules are arranged
 in circles of various sizes containing from 4 to 9 granules
 each. They are large over the ends and edges but
 become small in the center of the flat sides which
 are concavely sunken. Dark when yellow, the
 granules pure white, contrasted. $.8 \times .5 \times .3$ mm.

Emmett's camp flies 1123 $\frac{1}{2}$
 Kaslo BC June 1903. Hd and feet green, black dots
 a slender vertical line on antenna and cerci and
 on lobe darker, eye black. Feet 6-11, 13. Green
 6-corned, minute black points on 2 & 4
 annulet & sv fold. Spines dark.
 Emerging June 10, 11, 12 etc

(1141 cont) Body yellowish and brown ground black
 dotted reticulate, papillae granular. D. pale line
 edged by small black dots. Hair being remains of the
 obsolete dorsal lateral markings. 12 feet black shield
 behind the folds lining of ii. Ed line pale wavy
 narrow black above, below with trigonate black dot
 patches, traces of a lat. line, subity line broad, white
 lined, blackish dotted. Svc & v grey-black pulvinate
 shaded. The feet black mixed. abd grey dotted
 tubercle small black, above center of, setae short
 stout heavily swollen at tip, compressed, dentate
 somewhat like scaled pale horn. Spines black.
 pupa Aug 9

1124

Egg by ♀ Deltoid 18366, Center Harbor N.H., July 16, 1902. Laid on the cover. Spheroidal, the base flattened. Smooth with only fine obscure hexagonal reticulations. Shining pale yellow. D. 5, height 4 mm.

Hatched June 25 - Hd bilobed cordate. Translucent pale brown eye black mouth brown. Body cylindrical, conical, miniform 12 scarcely enlarged, ends abruptly rounded. Transparent pale yellowish, slender. Leg joints and the large round tubercles black. Semilobed, the feet of 7 & 8 very short and not used. Setae pale, distinct on moist dead maple leaves. VII 26

Shed July 31 Hd. 4 pale brown fine darker reticulate, ocelli black. Body thick, 12 slightly enlarged, all smoky streaked a darker diffuse blackish d. line. Tubercles slightly elevated blackish & pale rings. Setae small pale ~~capitate~~ feet reduced. Shells concolorous, not conified but of a brick shivered.

Aug 12 Hd. 5 bilobed, pale brown, obscure dark brown reticulate. Body flattened v, 12 a little enlarged d, pale dark brown, almost whitish & straight sinuous d. line. Tubercles obscure and trace of a darker s.d. on; feet region being mottled in brown leaving a narrow clear space below d. line. Tubercles smoky, small, rounded.

Aug 23 Hd. 6.5 same Body dark brown, darker lat. & shading pale d, a dark nodist brown d. line. Diffusely edged. A rather broad light s-sty band yellow dotted on its edge. Most distinctly on upper edge. Subventral: feet brown, rather clear & little sinuous tubercles large not shiny rows, dark brown setae pale, tend down to body & directed post. (seen to be interesting, Sept 8)

1125

Eggs by J. Cooper 18368 Center Harbor NH July 16 1912. Laid
 at top of tumbler singly or in patches. Elongate elliptical
 strongly rounded flattened on 2 sides, depressed and
 smoothly rounded the other very sharply and
 broadly truncate. Rets arranged in straight rows
 the cross lines less distinct than the longitudinal
 ones which form fine raised wavy lines about 24
 on the egg. They run sharply to the truncation becoming
 reticulation there and to the depressed end diminishing
 in number by confluence. Shiny green the rets
 a little whitish. Size .6 x .4 x .3 mm. Turned dark red
 Hatched July 25 NH rounded, convex in front slightly bilobed
 yellowish brown, a dusky shade over median suture
 forming an erect band and a more defined darker line
 along side of head from eyes. mouth brown w. mm.
 Body moderate normal, cylindrical, equal. pale ochre, a
 straight dorsal band from 2 ant-12 and a s-v one extending
 to anal feet dark brown red, defined contrasted,
 uniform, contrasting the wrinkles on head. Shields
 undifferentiated, tubercle minute, setae short, pale,
 minutely capitate. Feet concolorous, a brown stripe
 on the outside of the anal ones. (Revised form)

1126

Lively wiggler on white hick. Solds over youngish leaf
on back side with soft web and prolegs within.
Leaves not stem touched. Hd elongate, flatly extended
whitish eye black on a dark band on side of face.
Body slender, smaller at ends, feet normal. Translucent
green, pro dark, tubercles rather large slightly elevated
yellowish white, contrasted against dark pro.
ia+it, ii+iii, iv+v. vi+vi chameleon with body
shield uncorrupted, feet pale. (wormy) ^{ex. mouth} (wormy)

1127

Regulated webbing up shoot of Mex (by leaves) into a
ball breaking tip of stem - pass within. Big larva
solitary. Translucent, milky whitish, d. several
clear. Tubercles large murky brown, pale central
iv+v. Hd pale brown, flatly extended, darker about eye
& a mouth 1.6 mm. Col large, shiny black with
a broad median dilution of pale buttons
ia+it, ii+iii, iv+v and on 3 i+ii in a large
irregular band. On 13 and a large elliptical d. plate
behind i; and pl. weakly colored. Feet pale normal
no anthers. Ant shows dark.
Ant Aug 20 1902 Cat no. 18464

1128

Green noctuid on wild sunflower from A. H. Verrill.
New Haven Ct. July 31 1902. Hd slightly lobed feet green
on attenuated white hump on face each side & die
apex ocelli divergent. Body rather slender, no hump
green feet normal. D. 2d line rather broad, white
even, stig. double, narrow (the green filling being color
of ground and even) D. 1st. space filled with
opaque yellowish white except narrow green edge
to the line. Tubercles whitish irregularly green edged
Hairs fine black, iv below spinous. Feet pale. Shield
looking white shading otherwise concolorous and
col crossed by d. & sd lines.
Oct Aug 18 1902 Cat no. 18460

1129

Larva on coccinifera from A. H. Verrill New Haven Ct.
 Said to be green when young & day feeders then.
 Hd 3mm rounded, slightly flattened before, apex well
 under 2. Pale reddish brown thickly freckled with
 angular blackish dots. Brog thick, robust, cylin-
 drical, equal, 13 a little smaller. Carinae
 brown with numerous black bands wider than
 the spaces, broken mottled and dilated
 with the ground color. A broad slightly paler
 subapical band below which the mottled bands
 reappear but rather broad pale. Venter all
 smoky & obscured, corded. Tubercles in black
 blotches, setae small. The feet reddish like
 head, vis shields; anal plate large, obtusely
 pointed behind. Spiracles dark orange black ringed
 at 9 the black band in dorsal space, and irregularly
 almost checkered laterally, defining double d.
 black patches distally and a broad shade lat.
 abd. feet pale corded.

1130

Cat worms from Mr. A. H. Verrill, New Haven Ct.
 York like *M. C. nigricans* (see below)
 Cat Sept 5 1902. Cat nos 18482-3

1131 *Chrysothrips carina?*

Little larvae in a web, gregarious & numerous mine
 from A. H. Verrill, New Haven Ct., Aug 3, 1902.
 Hd 3 slightly bilobed, flattened, 1.5 high, oblique, weak,
 apex not in 2; pale yellow eye large black mouth
 brown. Body cylindrical, equal, undulated robust
 13 smaller. Grounds honey yellow with irregular
 white rings about the tubercles that on the thorax
 form dotted adducal lines. Tubercles distinct, round
 elevated, moderate large, dusky, setae
 pale, mostly directed forward, i slightly directed to ii
 except a 12, iv + v obliquely pointed, vi represented by an
 obscure hairless tubercle; setae with minute bellum
 tips. Feet normal, crochets in hook circle for a out & inside

[Egg in a flat patch like shingles a back of leaf.
 skins reticulate in a radial pattern like over-
 lapping scales or else crumpled reticulate.
 Egg elliptical 1.2 x .8, very flat. Shell white.]
 Stage II Hd. 5mm shiny black erect, flattened before yet
 rather thick, very slightly bilobed, scarcely retracted
 in 2. Body black the shield shining, tubercles
 low rounded, congested at the edges surrounded
 by irregular white blotches which form dotted d.
 & add lines on thorax, more distinct also on 5-v
 abd. Feet normal, abd ones short, venter unmarked.
 Aug 7 Hd 8 black, flatly extended, apex in 2, sparsely
 white checkered below. Head flattened v. blackish annulate
 tubercles black with adjacent white dots and other
 from a horse sd line and line along so gold.
 Shed Aug 14 Hd 1.4 black, flatly extended, shiny, 2 white
 spots in d, one on paraclypeal spine below, and about 6
 more in a circle on side of lobe. Body black with many
 irregularly shaped white dots in d. add. sd. lat, stig
 and so on, then add. from most developed. Feet black
 normal. Shields more shiny but all colored alike.
 Shed Aug 23 Hd 1.9 Hd as before but additional white spots
 on apex paraclypeal spine and vertex. Body same, but
 thick spotted with small irregular marks. Setae
 from rather long. Shields concolorous.
 Shed Sept 1 Hd 2.8 The same. Black heavily dotted
 with white. Skin annulate & wrinkled, the white
 dots but by annulated inclosures & irregular edged. Dot
 2 or 3 per seg in longitudinal rows, d. add. sd. lat, cape
 stig, then substig confused rows. 5-v contracted, prod. end
 somewhat tapered - bridge broken.

shields concolorous

March 3, 1903
 10 Cate .3 .45 .65 .9 1.3 1.85 2
 .26 .47 .78 1.3 2.1 6
 10

1132

Eggs larvae of *Phasiandrina compressipalpis* on worm-
 seed vine from A. H. Verrill, near Haven, Cal.
 Egg $\frac{2}{3}$ spherical, base flattened, pale yellow, not shiny,
 smooth, very obscurely rounded reticulate, the net. ar-
 ranged in vertical rows with the ribs a trace more
 distinct and finely reticulate at vertex. The whole
 sculpturing is very faint, shadowy, like markings
 or slight flattening rather than definitely raised with D. 6
 Stage I. Hd small, rounded bilobed, cordate, jointed bluntly
 at mouth, erect, white. Eye black, mouth brown, w. .3 in
 body cylindrical, unival, 12 a trace enlarged, 13 abrupt.
 annular, feet 7-8 entering absent. Translucent white
 food green, tubercles, setae orange black distinct
 unival, vi absent, no shields whatever, feet all
 pale like body. iii-v also in thorax in-vt separate.

Stage II. Hd small, slightly bilobed, in nature depressed,
 oblique, not shiny greenish pale yellow, eye
 black, mouth brown. Body slender, elongate feet
 absent in 7-8. Setae obscurely annulate. Pale greenish
 green from food, slightly shiny, smooth, a broad
 black lat. spot on segs 4-8. Tubercles & shields obsolete.
 Stage III. Hd .75 white not shiny, green tinted in lobes, short
 glenae green, whitish s-v, not shiny, a broad dusky
 lat. shade containing in its lower part a broad
 seg black spot 4-9. no shields nor tubercles

and same Hd 1.8 [Stage before but 1.3 colored in kind diet
 from first like mat. all worms]

Stage IV. Hd 1.3 Green with the black lat. line & spots as before.
 (Stage 75) Stage V. Hd 1.9 kind diet coloration - mat.

1133

Stage I. Hd .3? from 1 the feet usually extends whole
 and 2 feet are appressed, a slight v. prominence on 6 & 7 at
 bearing small spines. a large lat. crinal prominence on 9
 above & before spiracle with black spines a low, prominent
 collar on 12, pale marked set. Feet normal, a s-v
 white fringe below 10 & 12, anal pl. & leg shields
 large, & gray. Body green, more or less marked with
 gray & brown, sometimes mostly brown. The green
 occurs in segmentary bands, darkest on 9 & 12 and
 next gray dorsal brown shaded 7 the feet

light reddish with nearly black shading at the bases
 spiracles reddish. Skin with many 2° granules most white
 but bearing black spines on the humps & clavate capitate
 papillae in s-v fringe 9-12. 1° setae pointed black, from small
 black tubercles, normal 11-33 except about 5 setae represent vii

Amphidraus cognatus from the Lymnaea on water in I. 8/26
 Hd rounded bilobed, full, blackish on lobes, dull rounded on
 s-v mouth; sutures s deep, well marked, w. 3 + Body unval,
 moderately round, white

Phasiandrina compressipalpis
 Green
 cognatus
 Lymnaea
 the spines are brownish
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 next gray dorsal brown shaded 7 the feet

Columbia ^{AND} HARTFORD BICYCLES

1877-TWENTY FIFTH YEAR-1902

HOME OFFICE, HARTFORD, CONN.

The wheel of Time goes cycling on
Around the boulevard of space;
The planets trace about the sun
Their shining paths with matchless grace;
While round the world, from zone to zone,
COLUMBIA's steel-clad courses speed;
O happy weights that sit thereon,
How has invention served your need!

Emma Scarr Booth.

12/30

364-1

Tuesday

December 30

Crab of cognata a look

~~Ext. W. many from Schenck~~

Lycia cognataria Guen

The eggs have been broken by a P.W. crabs
and there are several good descriptions
of the mature larvae by some besides a poor

Columbia ^{AND} *HARTFORD* *BICYCLES*

1877-TWENTY FIFTH YEAR-1902

HOME OFFICE, HARTFORD, CONN.

With the COLUMBIA BEVEL GEAR CHAINLESS BICYCLE you can defy weather, mud, dust, snow. With the COLUMBIA CHAIN BICYCLE you can accomplish the most that can be done with any wheel of the chain type.

Mr Mc See

Copied from



NEW MOON.

12/29

363—2

Monday
December 29

Elliptical, rounded and distinct punctures
above. Below, ends rounded and much
alike, no distinct flattening of margins
and no marked depression of the other end.
Pits distinct, in longitudinal rows, forming
low ridges, the cross striae being
little weaker than the longitudinal lines.
Pits enlarged at the ends and less
sharply marked. Size .6 x .4 x .3 mm.
"Color bright green" (Lynn) Faint trace

March 3, 1903

Cale .3 .45 .65 .9 1.3 1.85 2
 .26 .47 .78 1.3 2.1 6
 10

1132

Eggs larvae of *Chrysomelidae compressipalpis* on Monardella vine from A. H. Merrill, near Haven, Cal.
 Egg 3 obovoid, base flattened, pale yellow, not shiny, smooth, very strongly rounded reticulate the net. arranged in distinct rows with the ribs a trace more distinct and finely reticulate at vertex. The whole sculpturing is very faint, shadowy, like markings on slightly flattened leather than definitely raised with D. 6
 Stage 1. 1st small, rounded lobed, colorless. Jointed thorax at mouth end, white, eye black mouth brown, .3 m. Body cylindrical, smooth, 11.5 times enlarged. 13 segments, smooth, feet 7-8 lateral absent, transverse white and green tubercles, other orange. Black dorsal tubercles, 11 absent, no shields whatever, feet all pale like body. III & IV also in thorax in 1st segment.

Stage 2. 2nd small, slightly lobed, in nature different, transparent, not shiny, greenish pale yellow, eye black mouth brown. Body slender, thorax feet absent in 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, 31st, 32nd, 33rd, 34th, 35th, 36th, 37th, 38th, 39th, 40th, 41st, 42nd, 43rd, 44th, 45th, 46th, 47th, 48th, 49th, 50th, 51st, 52nd, 53rd, 54th, 55th, 56th, 57th, 58th, 59th, 60th, 61st, 62nd, 63rd, 64th, 65th, 66th, 67th, 68th, 69th, 70th, 71st, 72nd, 73rd, 74th, 75th, 76th, 77th, 78th, 79th, 80th, 81st, 82nd, 83rd, 84th, 85th, 86th, 87th, 88th, 89th, 90th, 91st, 92nd, 93rd, 94th, 95th, 96th, 97th, 98th, 99th, 100th, 101st, 102nd, 103rd, 104th, 105th, 106th, 107th, 108th, 109th, 110th, 111th, 112th, 113th, 114th, 115th, 116th, 117th, 118th, 119th, 120th, 121st, 122nd, 123rd, 124th, 125th, 126th, 127th, 128th, 129th, 130th, 131st, 132nd, 133rd, 134th, 135th, 136th, 137th, 138th, 139th, 140th, 141st, 142nd, 143rd, 144th, 145th, 146th, 147th, 148th, 149th, 150th, 151st, 152nd, 153rd, 154th, 155th, 156th, 157th, 158th, 159th, 160th, 161st, 162nd, 163rd, 164th, 165th, 166th, 167th, 168th, 169th, 170th, 171st, 172nd, 173rd, 174th, 175th, 176th, 177th, 178th, 179th, 180th, 181st, 182nd, 183rd, 184th, 185th, 186th, 187th, 188th, 189th, 190th, 191st, 192nd, 193rd, 194th, 195th, 196th, 197th, 198th, 199th, 200th, 201st, 202nd, 203rd, 204th, 205th, 206th, 207th, 208th, 209th, 210th, 211st, 212nd, 213th, 214th, 215th, 216th, 217th, 218th, 219th, 220th, 221st, 222nd, 223rd, 224th, 225th, 226th, 227th, 228th, 229th, 230th, 231st, 232nd, 233rd, 234th, 235th, 236th, 237th, 238th, 239th, 240th, 241st, 242nd, 243rd, 244th, 245th, 246th, 247th, 248th, 249th, 250th, 251st, 252nd, 253rd, 254th, 255th, 256th, 257th, 258th, 259th, 260th, 261st, 262nd, 263rd, 264th, 265th, 266th, 267th, 268th, 269th, 270th, 271st, 272nd, 273rd, 274th, 275th, 276th, 277th, 278th, 279th, 280th, 281st, 282nd, 283rd, 284th, 285th, 286th, 287th, 288th, 289th, 290th, 291st, 292nd, 293rd, 294th, 295th, 296th, 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#52 (with 51) Hd. 8 antennae black, rough at vertex. Eyes
oval. Maxillae. Body heavily brown shaded throughout.
Tub. short and thick, $2\frac{1}{2} \times 1$, slightly conical. Tub. with
black infundibulum. Anal seg. with d. plate. Comb a
long radiate of fine spines.
Hatched Aug 11. Like pipiens. Pupa Aug 19. Ant Aug 22.

#55 Three *territans* from enclosed swampy edge of the
Lake at path to the camp island at the Point.
Taken Aug 12, 1902. Carter Harbor. Pupa Aug 14. Ant Aug 18.
(Ant with 2 others)

#56 One no 30 pupated Aug 13. Ant Aug 16. *pipiens*

#60 Two little I black-tipped-tubes from Armstrong Spring
Point Carter Harbor, Aug 12 after rain. Aug 17 five of them
one like *canadensis* II with short tubes and mainly
black heads, a fifth is *territans*. First pupa Aug 25;
skin has characters of *Aedes fuscus*; 2nd pupa in Carley
Creek; 3rd no large curved *canadensis*. 4th is rather large
curved *Aedes* of 13; 5th *infestus*? 6th *canadensis*.
Pupa Aug 28. Ant Aug 29. Pupa Aug 29. Ant Aug 30. Pupa Aug 30. Ant Aug 31.

#53 Many small about same size in a series of
swampy puddles among a road in a low meadow
nearby. Aug 3, 1902. Puddle in a short
ditch that does not drain. Numerous gamblers of larvae
also a few minute *Anopheles*. A few spines taken
Aug 10. Pupa Aug 14. Ant Aug 15. Pupa Aug 15. Ant Aug 16.
Pupa Aug 16. Ant Aug 17. Pupa Aug 17. Ant Aug 18.
Pupa Aug 18. Ant Aug 19. Pupa Aug 19. Ant Aug 20.
Pupa Aug 20. Ant Aug 21. Pupa Aug 21. Ant Aug 22.

#54 One no 50 pupated Aug 10. (Pupa died Aug 12)
#57 Larva from 53. Hd. 6 black & tail black, feet rather
flat. Tub. at vertex, tube short, anal seg. plated
comb about 18 teeth in double row. Skin sand. Pupa Aug 13.
Hd. 8 with tube & anal shield dark & infundibulum
like 58 in comb etc. apparently *canadensis*.
Hatched Aug 16.

Pupa Aug 21. Ant Aug 25. *canadensis*?

#58 Extract from 53 apparently the same as #57. Hd. 6 tube spotted
Hatched Aug 18. Tub. 6 fine white, tube short, anal seg. many teeth
in double row, d. plate v. light & advanced beyond here.
Hatched Aug 16. Tub. $1\frac{1}{2} \times 1$ light brown, anal seg. $\frac{1}{2}$ plated. Tub. covered
before here. Pupa Aug 20. Ant Aug 21. Pupa Aug 21. Ant Aug 22.
Hatched Aug 24. Ant Aug 28. *canadensis*?

#, slender & again as long as tube, tube small. Head as usual
anal seg. plated. Most advanced, comb 12 spines in irregular
irregular row. Small Aug 20. Characters of *Aedes*. 15
Pupa Aug 24. Ant Aug 27. *Aedes fuscus*?

#56 Egg on surface of spring pool, Carter Harbor, Spring House
Aug 12, 1902. Single, separate. Ellipsoid, rougher rather
bluntly at one end, tapering to the other end, which is small
and also rounded; one side flattened; fine granular
with rounded projecting granules which are large at
the ends, conspicuously so, and at the big end form a
row of cap which terminate on the flattened side
in a slight ridge like a tail behind under the
central part of the egg the sculpturing resembles a
fine shagreen. Slightly reddish white, the ends black.
Measurements. Size $9 \times .85$ mm. (Two eggs)

Both hatched Aug 13 = the 1st by larva #5- at least there are
two of these common in the jar very small, but eggs look unbroken
though less white, more brownish. Really hatched later in the day
the larva coming off like a lid. Larva looks unbroken, blackish.
Larva all white at first, later turning blackish. Blackish as
also anal pl. & the long antennae. Aug 15 in still all white,
the other darkened, the body even all brown shaded. = #10?
Antennae as long as head, tube has a short clear space at
base but is long, as the blackish part looks like a narrow
tube. Hatched Aug 19. Pupa little *territans*, Hd. 5. Hatched Aug 27.
Tub. long, narrow, glabrous, ventral, anal seg. small.
Pupa Aug 27. Ant Aug 28. Pupa Aug 28. Ant Aug 29.
Pupa Aug 29. Ant Aug 30. Pupa Aug 30. Ant Aug 31.
Pupa Aug 31. Ant Aug 32. Pupa Aug 32. Ant Aug 33.

#61 Two pupae and 4 larvae from purple swamp in
Hemlock Swamp, Aug 13, 1902. Apparently all *territans*.
Later a whole lot more. Also *Anopheles*.

#62 A lot from an apparently permanent pool in
grass beside the road containing rocks Hemlock Swamp
N. V. Aug 13, 1902. Not more large from rain.
Aug 14 had heavy rain. Took more also from swampy pool
near Lake Squam and 2 larvae from other pools, all *territans* N. V.

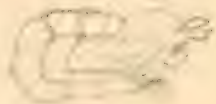
#63 The same puddle as #23 again filled with water
and little larvae Aug 13. Look *territans* and *larva*.
Both very small. No sign of more rain so took the
whole puddle as before. Pupa Aug 16. Ant Aug 17.
Pupa Aug 17. Ant Aug 18. Pupa Aug 18. Ant Aug 19.

#64 Sample from no 63. Stage I like *canadensis*. Tube
shagreened & slightly black. Pupa Aug 16. Ant Aug 17.
Pupa Aug 17. Ant Aug 18. Pupa Aug 18. Ant Aug 19.
Pupa Aug 19. Ant Aug 20. Pupa Aug 20. Ant Aug 21.

#65 A number of *Aedes* larvae in clear water pool
nearby. Pupa Aug 16. Ant Aug 17. Pupa Aug 17. Ant Aug 18.
Pupa Aug 18. Ant Aug 19. Pupa Aug 19. Ant Aug 20.
Pupa Aug 20. Ant Aug 21. Pupa Aug 21. Ant Aug 22.

#66 Sample from no 18. Stage I like *canadensis*.
Hatched Aug 18. Tub. 6 fine white, tube short, anal seg. many teeth
in double row, d. plate v. light & advanced beyond here.
Hatched Aug 16. Tub. $1\frac{1}{2} \times 1$ light brown, anal seg. $\frac{1}{2}$ plated. Tub. covered
before here. Pupa Aug 20. Ant Aug 21. Pupa Aug 21. Ant Aug 22.
Hatched Aug 24. Ant Aug 28. *canadensis*?

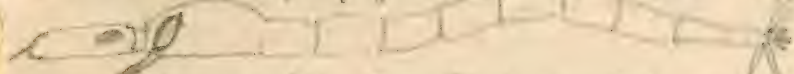
#67 Eggs by ♀ *Culex canaliculatus* from Durham N.H., caught Aug 8, egg Aug 16. First ♀ from Canton Harbor July 20 died after Aug 12 without egg. Second from Durham lit Ym., after several double water and was laying egg Aug 16 having fallen in water. Many of the eggs parake, but I do not know whether this is a natural condition or induced by the artificial narrow mouth of the breeding jar. Fresh eggs from water, later are deep, bluish through dark. Each singly elliptical, the thickest part at 1/3 from rim, the side flattened, the shape much as a *Tachina* egg. Finely reticulate, the reticulation elongate and the space between more pronounced at the ends; a reniform and a slight clear cushion shaped elevation. The sculpture seems reticulate with depressed area, not granular as the edge of entire smooth except at the rim, and where it shows slight granulation, while the sculpture is distinct and pretty. I. 8 mm., w. 2.5 mm.



#68 Eleven little black-tipped tubes in I in dirty water below a pile of rocks & rubbish in a hole in the "Pond" Canton Harbor Aug 15 1902. Tube come beyond at top end 1/2 black rather oblique cut, rather a clear part. O. plate blackish, longer than wide, slender, as long as tube and narrow. End of tube. Count of 6 slender teeth rather close but all blackish, antennae quite long, stiff, slightly at middle and outer corners & spreading. Shed Aug 16 1st stage, brownish, not very dark. (one dead Aug 18) 2nd little before middle blackish beyond, white at base. Shed Aug 18 2nd stage. Count with many spinous points & some tube pale brown. 2 plate, left & back round small. Shed Aug 19 3rd stage, only 3 left (see slide for stage 3) others which have small comb, and seg. d. flattened the proper shape and pointed. Each slightly advanced and seems to be character of *Aedes* genus. Shed Aug 23 4th stage. Aedes, but the male flattened. 22? 23? Aug 29 5th stage? Aedes, fusca 22?

#69 Sample from 53 a VIII 21 VIII 21 1/2 1/2 1/2 b VIII 22 VIII 25 1/2 1/2 1/2
#70 " " a VIII 21 1/2 1/2 1/2 b VIII 23 VIII 26 1/2 1/2 1/2
#71 " " a VIII 23 VIII 26 1/2 1/2 1/2 b VIII 23 VIII 26 1/2 1/2 1/2
#72 " " a VIII 21 VIII 23 1/2 1/2 1/2 b VIII 23 VIII 26 1/2 1/2 1/2
#73 " " a VIII 21 VIII 23 1/2 1/2 1/2 b VIII 23 VIII 26 1/2 1/2 1/2
#74 " " a VIII 21 VIII 24 1/2 1/2 1/2 b VIII 23 VIII 26 1/2 1/2 1/2

#75 Long headed green worm with #61 described Aug 18, 1902 walks creeping by first joint and anal crotch. Hol. Kat.



Segment from tip, ventral neck process slender, slightly curved, used as a foot. An oblique growth on thorax above it. Thin, consolidated, elongated, shed slender, subcylindrical, subequal. Anal finger small, a d. finger and paired ventral prongs. Shed Aug 18, 1902. Shed Aug 19, 1902. Shed Aug 20, 1902. Shed Aug 21, 1902. Shed Aug 22, 1902. Shed Aug 23, 1902. Shed Aug 24, 1902. Shed Aug 25, 1902. Shed Aug 26, 1902. Shed Aug 27, 1902. Shed Aug 28, 1902. Shed Aug 29, 1902. Shed Aug 30, 1902. Shed Aug 31, 1902. Shed Sept 1, 1902. Shed Sept 2, 1902. Shed Sept 3, 1902. Shed Sept 4, 1902. Shed Sept 5, 1902. Shed Sept 6, 1902. Shed Sept 7, 1902. Shed Sept 8, 1902. Shed Sept 9, 1902. Shed Sept 10, 1902. Shed Sept 11, 1902. Shed Sept 12, 1902. Shed Sept 13, 1902. Shed Sept 14, 1902. Shed Sept 15, 1902. Shed Sept 16, 1902. Shed Sept 17, 1902. Shed Sept 18, 1902. Shed Sept 19, 1902. Shed Sept 20, 1902. Shed Sept 21, 1902. Shed Sept 22, 1902. Shed Sept 23, 1902. Shed Sept 24, 1902. 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- #101 Sample from 63 a VIII 23 VII 26 *Culex* ♂ to VIII 24 VII 27 *Culex* ♀
 #102 " " a VIII 23 VII 27 *Culex* ♂ to VIII 23 VII 27 *Culex* ♀
 #103 " " a VIII 24 ♂ died to VIII 26 VII 28 *Culex* ♀
 #104 Sample from 53 a VIII 25 VII 28 *Culex* ♂ to VIII 26 VII 28 *Culex* ♀
 #105 " " pupa VIII 26 and VII 29 *Culex* ♂
 #106 Sample from 63 a VIII 23 VII 27 *Culex* ♂ to VIII 24 VII 29 *Culex* ♀
 #107 " " a VIII 23 VII 26 *Culex* ♂ to VIII 23 VII 27 *Culex* ♀
 #108 " " a VIII 25 VII 24 *Culex* ♂ to VIII 27 VII 31 *Culex* ♀
 #109 " " a VIII 24 VII 27 *Culex* ♂ to VIII 27 VII 30 *Culex* ♀
 #110 " " a VIII 24 VII 27 *Culex* ♂ to VIII 26 VII 28 *Culex* ♀
 #111 " " a VIII 25 VII 27 *Culex* ♂ to VIII 26 VII 28 *Culex* ♀
 #112 Sample from 62 pupa VIII 25 VIII 27 *Culex* ♀
 #113 " " yellow back, pupa VIII 26 VIII 27 *Culex* ♀

#114 Black striped anopheles from Swamp. Well grown by Aug 31. Hd dark brown with lighter lines, antennae white black at tip, of which the third distinct and long. Studied over later. L transverse ones above, feet, joints long, dark, and distal, looking black, central lines, a straight narrow, white dorsal line on abd to tube, distinct and less distinct in thorax. Hair normal. Pupa Aug 31 dark with white d. abd. strips.

#115 Eggs of *Culex triseriatus* from Durham N.H. caught Aug 8; set Aug 22 & 27, eggs Aug 30. Laid singly or in groups, on bottom of jar at edge of water, adherent to glass and to each other. A mass of 4 because detached and drifted about at bottom of water. Elliptical nearly

Cylindrical, uniform and smooth surface; but ends rounded, the micropyle on one more strongly and with a small, clear, circular cushion at the tip, the other end more obliquely rounded and rounded at tip. Micropyle in the form of a heavy rounded reticulation but at the micropyle appearing as deep granular granules. The black surface is then strongly and finely reticulated, raised, the covering clear layer in the form of granular granules the spaces at the ends, more smooth centrally. Surface smeared with mucilage, causing the eggs to adhere. 8 x 2 mm. Not hatched May 7 1903 though eggs from probably fresh hatching

#116 Eggs of *Culex sylvestris* from Centen Harbor N.H., Sept 6, 1902. These all laid 29 from 63 and 984, 87 from 53 Nov 1 etc. Aug 27. Fed on sugar and fat. Eggs singly or in groups apparently by capillary action, floating, some on sides of glass but not adherent, only down on the surface film. Elliptical fusiform, the ends rounded pointed and about alike the micropyle differentiated by a slight apical protrusion, and sides more flattened. Smooth shiny black, free of micropyle and without granules covering reticulation, the ret. much elongated in the length of the egg, forming long lines or chains. 6 x 2 mm

#117 from Park Pool, Desjardes Park, Sept 6, 1902. *Culex canadensis*. Small eggs very long 50 x 6 mm. Length of last seg. D. length very small, next to reticulation of sides, dark large, black, short and are 2 x 1. Granular micropyle in fingers. Pupa Aug 10-11. Small large, curved, but not adherent to glass. The pupae strongly flattened, can not be broken without getting under things (almost)

1134

Egg of *Anopheles crucians* cat 18476 Mt Washington N.H.
Sept 5 1902. Considerable amount of shiny yellow D. of
light brown. Tailed larva collected about Sept 20
from water. 1st shiny black as water and
plate. Body uniform and black. Some on remarks. Fat
normal. Head. Horns long, black & pale, spinulose.
Small & single 1-12; 14 + 1/2 on thorax; 11 single on large
oblique and 14-15 single, 11 absent. Large & white
abdominal. 11 on 1st segment, 14 on 2nd, 15 on 3rd. 15 on 4th
on 5th. Legs rather short. Head slender. Spiculate.
Culicium, 11 on blackish. (11 2 haired 5-12)

C. March 6 1903

1135

Larva of *Platylabus melatona* from Mt. Washington N.H. on Sept 20 1902. Larva
in dark, folded leaves. Cylindrical, black.
Head tapered, 13 much contracted. 1st rounded,
black, small, black, black. Shiny, rather conical.
Spiculate, on sutures orange, antennal bases white.
A 2 triangular enlarged above. Head rounded,
cylindrical, black. Body subcylindrical orange.
2 unmarked, dried large shiny, not strong.
Compound, black, as one 2 left & 1 on large
rounded tubercles. Other eyes spotted by tubercles.
Shiny black black, slender, slender, con-
spicuous (see above for details, 1844). 1st pair
large, thin black. Internal organs largely
visible & lens. 5 tubercles small, large

Mosquitoes Washington D.C. Oct 1902

= 118 Some small got near Chain Bridge & river.
Seem to be all *Territorius*. One *Gomphus* emerged & pupa
Oct 16 & *nigritulus* (Coq. new det.)

#119 St Georges Is, Ind. collected by a bank and given me
by Mr. Kottmeyer. Thought to be *Territorius*. Died

#120 From near around pond & river besides the canal
on long path opposite Plummers Is, Ind. Oct 3, 1902.
Collected with Mr. Barber. 10000 pupae. Some larvae
left which pupated quickly

#121	Sample from 120	X4 X7	Culex erythraeus ♂
#122	" "	X4 X7	Culex erythraeus ♀
#123	" "	X4 X8	Culex erythraeus ♀
#124	" "	X4 X7	Culex erythraeus ♀
#125	" "	X4 X8	Culex erythraeus ♀
#126	" "	X4 X8	Culex erythraeus ♀
#127	" "	X4 X7	Culex erythraeus ♀
#128	" "	X4 X8	Culex erythraeus ♀
#129	" "	X4 X7	Culex erythraeus ♀
#130	" "	X4 X7	Culex erythraeus ♀
#131	" "	X4 X8	Culex erythraeus ♀
#132	" "	X5 X8	Culex confinis ♂
#133	" "	X5 X9	Culex erythraeus ♂
#134	" "	X5 X9	Culex erythraeus ♂
#135	" "	X5 X8	Culex erythraeus ♀
#136	" "	X5 X8	Culex erythraeus ♀
#137	" "	X5 X8	Culex erythraeus ♀

#138 8th hole larvae, 10000 from one hole, took the
whole. Pupae above Plummers Is, Ind. Oct 3, 1902.
Pupae Oct 4 eggs Oct 20 on place. Hatched Nov 9 1903

#139	Sample from 138	X9 X14	Culex atropalpus ♀
#140	" "	X5 X10	Culex atropalpus ♀
#141	" "	(died)	
#142	" "	X11 X17	Culex atropalpus ♀
#143	" "	X11 X17	Culex atropalpus ♀
#144	" "	X10 X16	Culex atropalpus ♀
#145	" "	X7 X12	Culex atropalpus ♀
#146	" "	X10 X14	Culex atropalpus ♀
#147	" "	X5 X10	Culex atropalpus ♀
#148	" "	X4 X10	Culex atropalpus ♂

- #149 a " " " X11 X17 Culex atropalpus ♀
 #149 Sample 138 (cont) X23
 #150 " " " X5 X10 Culex atropalpus ♂
 #151 " " " (died) Aedes triseriatus (tube black)
 #152 Another Pot hole (see 138) mostly all Territans. This was causing a just-hole, rather an angle in rocks with a little water.

#153 Another Pot hole (see 138) seems to be all small Triglophus.

#154 Another Pot hole (see 138). A few Triglophus only. See page X12 Oct 18 & 19 & 20 & 21

#155 Dirty swampy hole under bushes beside towpath canal near Plummers Is. W. D. Water Road and small from hills of grassy undulating damp meadow. Contains Triglophus at least, collected lots of this characteristic egg masses. They proved to be restans!

#156 Stage I from 155 only the very actual top of tube black and flat. Distinct black. Shed Oct 7 and Oct 9
 Shed Oct 18 Oct 21 & C. restans

#157 Stage I from 155 nearly all of tube black, sharp and late small black. (Little over 1/2). Good examples. Shed Oct 5. Shed Oct 7 (one dead). (Oct 9 included) Shed Oct 10 (up to 18) Oct 21 & C. restans.

#158 Two Triglophus egg masses from 155. Hatched in a swampy Oct 15. One extreme tip of tube black. Late apical 1/2 black. Shed Oct 7 Shed Oct 10 body. This is in Shed Oct 14 more still quite small. Shed Oct 21 Oct 22

231 Egg masses & pupae of Triglophus from holes in the grounds Dept. Agr. bot houses Oct. 21 1902.

a X22
 b X22
 c X22

Sample stage IS mounted Shed Oct 23 Shed Oct 25 (in part)

Sample 231 h, hatched Oct 23 (Part a & b in part)

Sample 231 o hatched Oct 23 (Part a & b in part)

159 T Dec 4 supposed Territans separated. Oct nigritulus!

#159 Larvae and pupae "taken on meadows along Elizabeth River. Salt water. Oct 4" from H. Bretherton & signed J. B. Smith. Contains some Territans and others with Triglophus to Triglophus. Also Triglophus and Triglophus coreus etc.

160 Sample of 159 X7 X13 collected ♀ 162 Sample of 159 (died)
 161 " " (died) 163 " " X8 X13 collected ♂
 162 " " X7 X12 collected ♂ 164 " " (died)
 163 " " X7 X13 " ♀ 165 " " X8 (lost in) X12 coll. ♀
 164 " " X10 X16 Triglophus ♀ 166 " " X15
 165 " " X7 X12 collected ♂ 167 " " (died)
 166 " " (died) 168 " " X8 X13 collected ♂
 167 " " X7 X12 collected ♂ 169 " " X7 X13 Triglophus ♂
 168 " " X9 X14 " ♂ 170 " " X12 (died)
 169 " " X21 X22 " ♀ 171 " " X6 X11 collected ♀
 170 " " (died) 172 " " (died)
 171 " " (died) 173 " " X7 X12 collected ♀
 172 " " X7 X13 collected ♂ 174 " " X8 X13 " ♂
 173 " " X8 X12 collected ♂ 175 " " (died)
 174 " " (died) 176 " " (died)
 175 " " (died) 177 " " X11 (died)
 176 " " (died) 178 " " X7 X12 collected ♂
 177 " " X7 X11 collected ♂ 179 " " X8 X12 collected ♂
 178 " " (died) 180 " " X8 X13 " ♂
 179 " " X8 X12 collected ♂ 181 " " X14 (died)
 180 " " (died) 182 " " X7 X12 collected ♂
 181 " " (died) 183 " " X8 (died)
 182 " " X8 X13 collected ♀ 184 " " X11 (died)
 183 " " X10 (died) 185 " " X15 (died)
 184 " " X10 X14 collected ♀ 186 " " X7 X12 collected ♀
 185 " " (died) 187 " " X7 X13 collected ♂
 186 " " X7 X12 collected ♂ 188 " " (died)
 187 " " X9 X14 collected ♀ 189 " " (died)
 188 " " X15 X21 collected ♀ 190 " " (died Nov 1)
 189 " " (died) 191 " " (died)
 190 " " (died) 192 " " (died)
 191 " " (died) 193 " " (died)
 192 " " (died) 194 " " X14 X20 collected ♀
 193 " " (died) 195 " " (died)

230 from 159 after all the big larvae had emerged some small ones were left. Separated Oct 11

♀ X20 X23 Territans ♂ X21 X20 restans ♀ X16 X19 restans ♂
 ♀ X17 X22 restans ♀ X16 X20 restans ♂ X17 X20 restans ♂
 ♀ X18 X22 restans ♀ X16 X19 restans ♂

232 Larvae from J. Turner Berkeley, Horners Turn N.J.
collected 3:45 PM, Oct 21 from "Triscanton's kettle"

A ♂ 23 ♂ 26 (collected) ♀ 24 ♂ 26 restroom ♀ 24 ♂ 27 restroom
B ♂ 23 ♂ 26 restroom ♀ 24 ♂ 27 " h ♂ 20 ♂ 22 "
C ♂ 23 ♂ 26 " ♀ 24 ♂ 27 "

1136

Larvae from Slays Harbor, Wash. [*Hesperia agave*]
collected Nov 13 and also November, also older; but came into
egg stage, and rounded, flattened, etc. Larvae in a con-
siderable area, large and rounded, flattened, etc. but
little depressed; whitish green, slightly shiny. 1 x 1 x .5 in.
Slightly curved, slightly flattened with a faint flattening just
anterior to the spiracle reticulation.

Stage 1: 1st rounded, slightly flattened, pale, whitish
testaceous eye black. Body slender, elongate, uni-
form, normal, smooth, slightly shiny, and light green.
Now just whitish. Tubercles, setae, minute all
over. Curls in a spiral on back of leaf at rest.
Stage 2: 1st 5 rounded, slightly flattened, pale green. Body cylindrical
normal, ends contracted, eye brown, folded, whitish.
also pale whitish green. Tubercles whitish, and a
black, elongated, forming, dense, granules, 6 very
faint whitish sd line. anal by shield with
a pair of short, curved, tubercles. Setae
short, pale, minutely capitate (dead Dec 20)

Apr 13 1903

1137

Egg by ♀ Seams, *Comptosia plumogera*? deposited
on apple tree 3 miles above San Jose, Santa Clara Co
Cal. (E.M. Chisholm). Laid in a mass on twig on
leaf side. Dark brown when used from Seams.
Whitish strongly flattened above, a hollow, and round
alike, one end a little depressed. Skin whitish, thin-
nerved, somewhat transparent, on the setae, round, but
in the stages, elongated, transparent, round, uniform size.
Hatched March 18 1903. Hd. round, whitish, a rather high
dorsal black, epistoma whitish on. Body black, rather
short, normal, and tapered, legs somewhat irregularly
widened centrally. Abdomen a narrow yellowish white line
on a sharp sd fold, broken in various places. Head of gemmae
yellowish. d. line in a series of central ovals. Tubercles
black, large, round, brown, setae distinct, short and long
brownish. Feet black.

Stage 1: Hd. 1st 5 rounded, slightly flattened, pale, whitish
testaceous eye black. Body slender, elongate, uni-
form, normal, smooth, slightly shiny, and light green.
Now just whitish. Tubercles, setae, minute all
over. Curls in a spiral on back of leaf at rest.
Stage 2: 1st 5 rounded, slightly flattened, pale green. Body cylindrical
normal, ends contracted, eye brown, folded, whitish.
also pale whitish green. Tubercles whitish, and a
black, elongated, forming, dense, granules, 6 very
faint whitish sd line. anal by shield with
a pair of short, curved, tubercles. Setae
short, pale, minutely capitate (dead Dec 20)

Stage 3: 1st 5 rounded, slightly flattened, pale, whitish
testaceous eye black. Body slender, elongate, uni-
form, normal, smooth, slightly shiny, and light green.
Now just whitish. Tubercles, setae, minute all
over. Curls in a spiral on back of leaf at rest.
Stage 4: 1st 5 rounded, slightly flattened, pale, whitish
testaceous eye black. Body slender, elongate, uni-
form, normal, smooth, slightly shiny, and light green.
Now just whitish. Tubercles, setae, minute all
over. Curls in a spiral on back of leaf at rest.

(IV & V from Seams - see desc.)

Hd. 2 and 3. M. - .5 .9 1.5 2.3

No Scum xli Apr 9 1903

1138 = 945 = 434

H. titiana eggs from M. Mennick Hatched Apr 6 1903
 Hibernated laid under bark. Elliptical flattened on
 sides, soft shell, concave, no flattening on mesosiph
 but the end smaller depressed. Surface smooth
 regularly elliptical. Pits large, coarse a little brown
 elongate, the areas concave. $6 \times 5 \times 3$ mm.
 ochraceous yellow dark gray just before hatching.
 Hatched Apr 6 (laid Oct 31, 1902) Hd rounded, smooth black
 dull shining, sutures, held obliquely back, vertex dark
 eye black as 3 mm. Body rather robust. Uniform
 shiny, smooth, normal, no plate. Brown heavily
 spotted. Thorax with an irregular pattern
 yellowish & brown. SV region broadly pale yellow
 fainter golden olivaceous. Feet slightly reddish
 tubercles concolorous, obscure; setae small

Sept. Agr. 343 in alcohol. 6 stages [see B434] II Hd .55 rounded
 smooth black, erect, reddish brown. Sutures depressed
 held round, tubercles clear concolorous dull reddish brown
 the dorsum with trace of several irregular pale lines
 SV region broadly pale yellow, narrow on thorax.
 Tubercles dark brown rounded, with several irregular pale
 lines. Feet and anal shield pale.
 III Hd .55 rounded, smooth, reddish, SV reddish, pale yellow
 slightly mottled, sutures a dark. Body broadly flat
 more with 3 pale lines of SV region pale brown of others
 color is most distinct. Cx 6 anal pale yellowish
 brown divided. Sept. region narrow on the head on old
 anal shield pale all its dark marks obsolete.
 Feet pale. IV Hd 1.1 essentially as before throughout.

Apr 28 1903

1139

cutaneous white at
base, red at tip.

Larvae of *Stenochla angustifolia* from Key West
 Fla, brought by Mr. Schumann, Apr. 11, 1903. Larvae
 are sluggish, hold the tail elevated continuously and
 do not move when touched. Hd 2.8, notched on
 top, higher than wide, scarcely below, flattened
 before D & B almost to vertex, erect, apex higher
 than 2, on suture depressed near vertex. Dark
 purple, reticulate mottled with blackish purple
 behind and in a spot reaching a distinct down
 angle of each lobe. Body somewhat flattened the
 venter flat S-S ridge distinct and the body above
 it slightly shy shaped in section as at level of
 fearay 20. A pair of low conical pointed mu-
 driculi of horns of 2 and. Anal feet very
 minute not used, the rim of SV ridge running
 smoothly around. Soft green. A distinct white line
 a SV ridge, faint yellow in 2-4, distinct on 11-13
 a small round horn. Horn stubs purple
 from the area between mottled in white &
 purple, a visible edge behind. A yellow & brown
 from horns 2-5 expanded in 6-10 into a patch
 of creamy white mottled with purple & purple
 which may be narrow or broad light a dark
 and expanded in center of seg. In thorax from 7
 stage on and 10 c is colored by a shadow of a
 pale line, in broad a diminishing dark purple
 stripe runs to anal plate. On this, a sd & dot
 from faint yellow line below broken into oblique
 a sd which runs from sd and on one seg back
 to foot slip just in the next. The last 11-12 is
 rather broadest & is colored by a weak sd on 12-13
 not oblique. The surface is finely pappery
 purple & white, the oblique line on front of the
 absence of horn dot. Special ochraceous thin feet
 reddish. Anal feet 7-10 heavily mottled in purple
 white on the base & in dark specimen up to
 the SV line covering 6-11

April 11 1903

Xanthopastis 1140

Larvae of *Euthysanotia tinnis* bred by me.
 Schwan in Cuba (not like larva described by me)
 Hd rounded, slightly wider than high, scarcely
 bilobed, setae coarse, black; light red a round
 black spot on seta 11 and one on eye, four
 black lines. Roof cylindrical, subequal 12
 scarcely enlarged, just dorsal equal. Dsh, base
 the feet, abd feet 1-10, feet half of 12 and all
 ground color of 13, light red, outer hole, rest
 of body black spotted with white. Cth with
 black spot on the tubercle, setae large &
 coarse, tubercles large and somewhat elevated
 conical, black. The white spot consist
 of 3 rows from base. the 2 and small
 the first large in the position of the round
 line, sd, lat, subequal, subequal. Ant ab vi
 is at center of 0; 3 black spot a big base
 at setae, clasper black 12-13 broad black
 spotted at the tubercle. Spiracles black,
 that of 2 with white posterior rim.
 Hd 3.2

Mosquitoes from pools near canal at Chain
 Bridge Md. April 17, 1903. Large & small,
 also pupae. *Culex canadensis* & *syriacus*

233	pupa	IX 18, ant IX 25	syriacus	240	pupa	IX 21, ant IX 28	syriacus
234	"	" 18, " IX 27	canadensis	241	"	IX 22, " IX 28	syriacus
235	"	" 18, " IX 27	canadensis	242	"	IX 24 - IX 1	canadensis
236	"	" 18, " IX 27	syriacus	more & syriacus and may 11			
237	"	" 20 " IX 28	canadensis				
238	"	" 20 " IX 27	syriacus				
239	"	" 20(3) " IX 27	canadensis				

243 Hagerly's Md. Apr 28, 1903. Wrote of pool all leaves
 are killed. millions of pupae, some larvae. Pool covered with
 freshly emerged (apparently) *syriacus* & *syriacus*
 243a IX 28 ant *syriacus* ♀ Everything in the pool was
 243b IX 28 " (got away) *syriacus*. Hundreds of pupae
 243c IX 29 " *syriacus* ♂ ant. Not one *syriacus* ant.
 243d IX 29 " (got away) A *canadensis* ant May 5
 243e " *syriacus* ♂

244 Eggs apparently *triseriatus* from an old rusty tin can from
 Mr. Hagerly Md 8 1902. In water all winter, 1 hatched
 April 30 1903. Hd round strongly depressed. Ant all white tip
 of 4 black and strong red white black. Hair moderate dark
 spotted in two, diminishing toward. Shed May 12 shed 1st

245 Pot Hole 4 miles from Va, May 6 1903 (after pupae, a lot of
 small tinnis and one *canadensis*, pupa May 7)
 In May 11 *canadensis*, May 16 *syriacus*

246 Carlyn Springs Glen Carlyn Va. all from upper spring
 (hundreds all white from I & II pupae, pale hair, tubercles
 black - *canadensis*) In May 12 *canadensis*

247 Pot cut off beside the River - small (1 larva) pupa May 12
 in *canadensis*. Died May 15 emerging. *canadensis*

248 Glen Carlyn cut off (many little tinnis & eggs resting; Anopheles)
 In May 15 *triseriatus*, May 16 do do, May 17 do do

249 Swampy hole Glen Carlyn (2 *canadensis* & pupa)
 In May 10 *canadensis*, In May 11 another do, May 13 another do.

250 Swampy hole Falls Church Va. 3 larvae & 1 pupa
 12 tinnis, 1 *syriacus* which pupated soon, 1 *canadensis* (pupa)
 In May 8 *Anopheles punctipennis*, In May 10 *syriacus*, May 11 *triseriatus*
 May 14 *canadensis* & pupa for #21 which shed 1st instar all new

255 Egg host in closed pool. Same swamp. June 2 1902
A narrow elongate host 6-7 eggs wide in middle, 26 eggs on
side. Eggs large black at poles. Interspersed reddish centrally.
Hatched June 6. 1st round inflated, eye round black and line
rather long straight. Wings 4. Brown with black pigment.
Shed June 11. Shed June 23. Pupa July 18 but died. Undoubtedly *Conobryus*

(Black tips)

256 Little egg host on water lilies on trestles especially
in those near the town (with 252A) June 3 1903. Host small
about 8 eggs and egg small too. Shape much as in
pupae but smaller, more irregular & angular.
Hatched June 5 multitudinously by bullet heads rounded
& each black with projecting antenna. Tube with 12
inflated and placed small black. Shed June 7
Shed June 14 Pupa June 23. Shed 27. Incidence 8

Conobryus con

257 Mr. Cochale got in an old tin can in a shack
near Quirón Lake a lot of larvae with very long
anal fingers. Mostly big but some smaller.
Cup-like like *Conobryus* wiggly at bottom forever. Pupa 6
257A Isolated little white ones. Not like heads and have
long tails. (Have a dorsal tuft and a smaller ventral one
which is dark black. Also a single subventral hair. One
head in a dorsal like image. Anal finger inflated each
like cylindrical 4. Egg July 1st. Full grown. One and some larger
than others, one side flattened. 2.5 width 2 very long
small. Dorsal black. Scumpling peculiar setae and a elongate
dorsal like setae. All spicular granular shagreened. Tail
single & setate. Hatched June 23 1904 (brought in). Other hatched
July 1st but were larvae.

258 *Conobryus* mostly pupae in a little pool cut off
from Lily-pool Lake Kaslo B.C. June 6, 1903.

259 *Conobryus* in same pool with 258. Not full grown.
None & pupae in other pools and even in Lake itself.
Which may all be *incidens*. The 29 one, but 5 to 10 seem *conobryus*

260 Many larvae & pupae in a deep hole full of water
near Lily-pool Lake June 6. 100 can address to *incidens*
260A Another lot same pool June 10. 100/14. 4 *incidens*. 20/15 7a
(Brown tips)

261 Egg host with 260. Host sized, egg rather large. Brown
at foretill end, black below. Shed June 11. Shed June 23
Shed July 4. *Conobryus*. (See p 68)

1142

Egg by *Phasmodia californica* from Mr. Cochale & 18795
Kaslo B.C. Same hatched June 2 and ate raspberry
Egg low conical, low flat. 30+ ribs. Hatching by alternate
at main point just round, sharp, smooth, the point
smoothly hollowed, in strain faint but raised. Pale
yellow. D. 6 H. 4 mm
Stage 5 Hd. black and rather long. Antennae & feet & feet plate
black. Body pale yellow. Setae coarse, black. Feet 9-10, 13
only. On eating, green from food, 12 hatched directly
Stage 6 June 6 Hd. black & green. Body green, dark black ridge
entirely blackish setae coarse
Shed June 9 Hd. 8 blackish yellowish. feet black with green
shiny tubercles. Body dark green. Greenish faint red
white line & distinct diagonal line. Subventral large
black "white" in black ridge, is white in the band, &
black ridge, vi small white feet blackish. Setae
coarse black. 12 greatly enlarged. feet up on 9-10, 13.
June 15 Hd. 1.5 black with detailed green spots to all
green black green with more or less bluish blackish
blackish. Body white add more, set black, shape but
narrow, have but base, stig. hard. Tubercles & shield like
June 15 Hd. 2.5 black heavy black band up side blackish
blackish. Antennae dark, body round 12 enlarged & black
tubercles elevated, white with black hair dot, line
same. d. 8. Spotted with bluish blackish. as
all good color is in a less degree shaded. The feet
blackish, yellow white. variable.
Shed June 17 inflated & lost.

Lumuli

1143

Egg by ♀ Hyppema Co. 18700 Kaslo BC June 1, 1903.
 flattened like sphere with base rounded, very flattened
 ellipsoidal; about 32 ribs sharp linear high fluted waved
 diverging toward apex which is rounded off a cluster
 of elliptical cells. One other distinct but scarcely raised
 arcuated line in the deep grooves, forming rectangular
 cells about twice as wide as high. Color bluish, base
 darker, beaded of the ribs which look wide under a
 low power. D. 5 height .3 mm. Later with irregular brown
 colored June 7 Hd large, rounded lobed colorless, eye black
 mouth brown, head slender, dentition fine, June 7, 1903, colorless
 unmarked, antennae slender, setae pale. (transparent)
 June 10 Hd high narrow to mouth below fine, transparent
 colorless. Head spot on forehead, eye black mouth brown
 body slender scabrous no feet on 7 transparent, feet
 all distal concave. Tubercles small black, 11 June
 later a distinct white sd line Hd .6 no feet on 7. Hd
 pale colorless with black tubercles, anal feet
 extended backward. Head transparent green tubercle black
 June 12 Hd .1.3 Hd green with black tubercles
 head slender elongate no feet on 7 seven of 8 small
 transparent green with distinct white sd stripe
 tubercles minute concolorous with black hair but
 with large. Setae black stiff.
 June 13 Hd .1.9 green with many grayish black flat
 on vertex. Body scabrous no feet on 7. 8-10 equal
 brown olivaceous green, sd .1.4 clear green, d. veal
 dark, whitish edged sd line bright white narrow
 below pale solid, hair dots black. Para costae
 long dark. Feet all green, spinous black ringed
 Is June 20 Hd 2 mm. June 21 Cat. 21095-7

measles
 gratulato Muckew
 xlv

1144

Egg by ♀ Seom. 18580, Kaslo BC June 1, 1903. Pale yellow
 elliptical, thick, the anteroapical end strongly depressed
 top & bottom concave flattened medially, with end flattened
 rather coarsely imbricated depressed all over, except a side
 of attachment, no ribs, appearing pale yellow S. & .7 x .5 mm
 Hatched June 4 Head conical, black, dilated central
 pointed mouth brown, body small rounded elongate
 distinct gloss. All pale yellow tubercles small blackish, a
 little raised. Cth slender, brown, slender. Setae distinct
 rather long, dusky, glandular tipped. (341173)
 June 9 Hd lobed, pale yellow, eye black mouth brown
 body rounded, green, roughened by the tubercles and marked
 tubercles, unmarked. Tubercles slightly raised, concolorous,
 feet green. Setae pale distinct. June 10 1903 rather conical
 June 12 Hd of rather long slightly lobed, pale tubercles
 eye black mouth brown. Hd transparent green, no shield
 a narrow black sd line, faint white shade each
 side d. veal, a narrow waved sd line, so pale whitish
 tubercles large, elevated smooth concolorous shining
 Setae rather long pale curved, spinous black edged
 June 16 Hd .1.3 rounded lobed like feet a moderate
 shining, eye black, from brown. Body small elongate, central
 gap, sd narrow large than wide, c. distinct. S. & .8 feet
 prominent, roughened by the tubercles. Green shining
 with yellowish sd, narrow narrow red, a white line
 white, dull obscure. Tubercles large, conically elevated
 head transparent concolorous. Setae long coarse white
 curved backward. Spinous black edged Feet pale.
 June 20 mature June 20 (inflated)

Oct 11 1903

1145

Egg by ♀ Seem. 18703, Kaslo B.C. June 2 1903. Pale yellow elliptical much rounded, smaller in d-v diameter. Not flattened truncate end flat, nearly rounded, other end depressed. Surface pits running lengthwise, straight from depressed end to angle of truncation. 9 with a broad side sharp, rather high, narrow, gently waved from base but distinct linear cross striae forming a cell. Not more as wide as long. A distinct low transverse ridge of truncation and another $\frac{1}{2}$ way to apex. The ribs crossing these forming somewhat curved cells. Surface finely confusedly reticulate. Pale yellow. $8 \times 7 \times 5$. Latent irregularly red spotted (like Camotheca).

Hatched June 10 1st inst. pale yellow smooth, eye black, mouth brown body moderate, yellowish, dorsal cross-striae shaded with brown, blackish between the pale lines, sd. black lat, stig and narrow sv. Tubercles small blackish a pale ring, setae black stiff. Feet normal, not strongly pitted. Late 1st inst. white a brown purple brown sv. head brown the stig & sv white lines. 2nd inst. faint yellowish brown and June 15. Hd. 6+ white, dusky dotted with black in a field in center of face and on a vertex. Rounded, head oblique, not much enlarged, ends contracted and small.

Head with green tint. base of horn whitish & long, horn 1st. stig & narrow brown lat. white line, not very distinct. 2nd horn brown black sv. horn, a little watermarked with and weak above the joint. Feet pale tubercles black June 19. Hd. 9 white thickly dotted with purple & black, head a vertex & patches on sides, stig, ant. distinct black spotted. Feet. Body moderate little flattened feet with distinct small feet narrow & divergent base, add white dots edge of venter. Sd line white with rigid, sd narrow waved, sides broad irregular streaked in white tubercles black, ii the largest, and joint black. Procoxae. Setae short black. 1st horn June 22. Hd. 11.3. Purple white, upper $\frac{1}{2}$ white thickly spotted with black, tubercles black, venter white, black spotted, head shining. Body bold feet slender, and feet square behind, colored like body. Gray brown black dotted reticulate d. line geminate black crinkly, is ii black just above white. Sd line white in slight black edged above. A faint white lat. line black edged. Tubercles black. iv conspicuously so and surrounded of white. The remains of a sub-styral line which appears also as a dash in ant. joint of legs. Feet pale gray white.

Third June 28. Hd. 18 rounded, black shining, feet before longish, spotted with pale ochraceous and black.

Nephila schrenckii Hulst

1146

Egg by ♀ Seem. 18705-6, Kaslo, B.C. June 2 1903. Elliptical distinctly flattened above & below, the flattening not quite reaching edge which is rounded, ends rounded one truncate, depressing anteriorly and not marked. Perfectly smooth (87 diam), the cell areas just indicated by globose flattening. Pale yellow latent brown a less spotted with red which brings out the obsolete reticulation better. $6 \times 4 \times 3$ mm. Hatched June 8 Hd. 10.5, a high shiny honey yellow, eye black mouth brown body slender, rather stout short before rapidly all moving yellow unmarked, no joints. Tubercles minute, setae short capitate dusky. (lost)

1145 cont. Black & white and a curved head edging dark of face. Spid. 1st. horn out, white, the ant. oblique. Hd. 1st. a little flattened, head flat, feet moderate brown brown, spotted with black. Below sd dots, dots on tubercles i, ii & iv light white, white & venter on ant. edge of seg 6-9 and less bright on seg 10 edged behind with black shading. White from black in an irregular pulverulent geminate d. line, a heavy black lat. black hooped dark seg below the spiracles. The feet pale and purplish, marked with white. Tubercles small black, elevated shiny. Spiracles pale black edged a row of black ventral venter and distinct on the 4-10-12, a row composed of a double row of black ground with a black & white row a less continued one to end of lat. lat. black venter.

Young larva June 11

1147

Egg by ♀ ? *Selenia alphaviana*, coll. 18648. Kaslo BC
May 30, 31, 1903. Pale yellow turning red. Elliptical
concave flattened above, convex at one end, the
other depressed but all rounded. Smooth minutely
granular above green without ribs. $1 \times .7 \times .6$ mm
(eggs infertile)

(1148 cont) ground whitish and ochraceous brown, clubbed
with black. D line blackish brown pubescent
forming patches at ant. & post. ends of segs, with
add. spots at 1 making a lateral line. A quadrate
black sd patch breaking the yellowish sd line
behind 11. Sides heavily black dorsal except anal
space. Ant. & subapical line faint, dorsal 5-V
line (11) rather broad & whitish. Tubercles black
iv with white spots around it. Spacles pale.
From June 27 Cocoon at point of silk. Pupa July 2

Oct 10 1903

1148

Egg by ♀ ? *Selenia* 18566 et al. Kaslo BC June 1 1903.
(18590, 18691, 18694, 18695) laid very slightly adherent, detached
at a touch. Rather full & much flattening out in a
line diameter, depression of ant. lobes end of egg but
then marked, transverse sharp, distinct, oblique
one to longitudinal ribs, 9 visible on broad side, above and
high from a flat surface, narrow, compressed, slightly
wavy, ending at edge of transverse where they project
like spine seen in profile view. Cross-striae low distinct
lines forming a cell area and vertical line at the rib.
The central part of ribs join near anterior end.
A line $\frac{1}{4}$ mic. on transverse, form 8 cells, mic. net.
Pale yellow, turning red. $8 \times 4 \times 3$ mm.
Hatched June 8 (also Ceanothus) 4th inst. 1st day. Body
thick eye black, mouth brown. Body slender, long & feebly
translucent whitish, a sharp, rather broad dorsal line
from whole length and a similar lateral one. No black
tubercles visible. Head pale, small obscure (like Ceanothus)
pale green, horns unchanged.
Hatched June 15 1st day. 6 pale creamy whitish, a mottled black
line on side behind eye, anterior black, a few dots on
wings, also black, stiff. Body moderate, robust, slender
green smooth, one shield, setae stiff black. Dorsal
blackish line present, faint shadow on dorsals but
bearing a series of elliptical seg spots on the end edge
of joint 5-11. Bases sd & narrow curved but white line
formed pigmented, over a band of a shy line. 3rd black
shade broken and dotted but distinct. Feet pale. Tubercles
whitish with black horn dot.
Hatched June 17 1st day. Whitish, becoming black mottled dotted over
wings, a brown band from antennae edge of black
dorsals. Body moderate, not elongate, smooth green
sd. greenish pubescent black line. Small black
centro of a seg. Scarce at ten levels and with scattered
alternating dots & d space. Sd line pale, greenish whitish
a faint line but line, obscure, edged above. 3-V
yellow, broad blackish shaded. Hair dots black. Spacles
black, single, no shields, setae brown dark. Later
all shaded with brown a dense wrinkled line from
anterior end. Horn sd, narrow upper & lower lat. 5-V all
black, moderate bands of pale. d black irregular spots.
Hatched June 22 1st day. 6. Round, flat before, oblique apex in a
greenish whitish on face, yellowish on lobes bearing
blackish with black dots in a row each side of which
covers to apex, a black reticulate. Body moderate
slightly flattened on a long, colored like bark

black lines on sides & sides white lat. Subdorsal white. SV
blackish blue shaded. Feet very pale contrasted anal
feet greenish.
Red to T in ground July 3
Scilium litaria Hubst
Oct 11 1903 N.A.S. 61

1149

4 eggs by ♀ from 18701 Kaslo BC June 1 1903. Lat yellow
turning red. Elliptical with dorsiventral flattening, mic-
ropylar striations & apical micropylar, rounded. The
micropylar sharp and a little oblique. Coarsely
reticulate, striate to the longitudinal line
stronger than the transverse ones, forming apparent
ridges which are irregular, decreasing by confluent
transverse lines & on narrowing of sides. Reticulation
the cell areas flat in the bottom, a rather strong
line under the transverse which is strongly reticulated
6 x 4 x 3 mm.

Hatched June 10. Hd bilobed pale brown eyes dark mouth brown
Body slender, turning whitish, all pale yellowish, translucent, the
grounding green. Very faintly indicated brown d. & SV bands
Feet pale. Tubercles and setae small, invisible. (At emergence)
only two tubercles & small ones on the first joint.

Wing app. ♀ 19123 June 11. Hatched June 15. Still June 18. Hd. 5+
flattened, round, bilobed, mouth large projecting, labrum
dark black mouth brown. Body moderate, rounded, translucent
yellowish, folded in a wave more opaque appearing bright
when about black stuff distant from minute tubercles.

on wings. Still 21. Hd. 7 pale green not shiny, apical
ant. whitish setae black. Body rather slender, green,
d. & SV blackish glaucous shaded with edge by very
faint d. & SV whitish lines. Setae black, short, pointed
tubercles minute. Feet pale. No shield.

Still 26. Hd. 12 bilobed d. & SV bands, oblique grey, setae black
Body rather stout, slender, side roughened by coarse small
bumps & line above bluish translucent, orange green
faint, brown dot on ant. edge segs 7-10, 8d line yellow
white narrow obscure; faint wave sub. Tachet line
thru yellowish white setae short black tubercles
minute - feet green no shield. Mouth brown. All feet
strongly blackish, beneath SV tubercles black.

Still 27. Hd. 18. Head oblique apex 2, green space
blackish shaded, a faint yellowish shade on d. &
SV. Setae pale and reddish. Body moderate
narrow bright green, a faint white d. stripe, visible
edged 2-13, a narrow broken white add edging the dark
d. dorsal with blackish marks, a 3x; trace of a
very faint line feet green. Tubercles faint reddish,
black rounded, no SV marks. Tubercles & setae
obscure, dark, hair dark black. Moderate, cylindrical
one brown short 21. Hd. 16. Very bright black checkered, feet pale
black checkered, alternate black brown and quadrate yellowish
12. Feet breaking down white 2d line with 4

Yuccoptera pachystomella Berg

1150

Great numbers in last years leaves of wegreen plants
like blueberry with serrulate leaves. Kaslo B.C. Then out
in open June 2. Two mines pinched. Mines pale whole
leaf, the frass surrounded in a pale at the end
Yucca emerges of hole on upper side when mine
is open a cocoon under the bands. (See
larva on whole) no feet. Larva light yellow

1151

Introduced? on willow, webbing and leaves and top only out
in the bud. Kaslo B.C. Pupating early June 5.
Hd 1 mm & bilobed pale translucent brown irregularly
smoky shaded over lobes, apex truncated, d. higher.
Body moderate slender. Tubercles on head not very
active, translucent pale greenish yellow, the first along
apical joint not filling body. Cyl. shiny translucent
pale internode a little smoky blotches about edges.
Subcylindrical, minute a little shiny. Setae pale
Feet normal pale, no spines. Setae short oblique spin at
end of anal seg. eye & dark behind black, mouth brown
Tachet, 11a-11b, 12+V.
Out June 15 1903 Cat no 19380 *Enadromia crebescens*
Housf

1151A. Winged with above. Setae black? Hd slightly elongate,
bilobed, dark brown black, apical, base of antennae
white. Cyl. 1 anal pl. long, brown black. Body
moderate slender dark brown, d. 2d (i & ii), last (iii)
line narrow, quadrate shaped broken, bluish white,
subdorsal very broad amp color, enclosing 10+V. Feet
pale but bristly dark ringed the anal joint flat
tubercles small, black, setae moderate dusky the
feet black.

Out July 2 Cat no 20557 *Eucosma crenata* Hb

1152 = 1157

Proctos on herbaceous plant Kaslo BC June 1 1903
Plant probably "Hesperis". Larvae green, proctos
d. sd. & head entirely whitest. Head sd. covered. Head
all white dotted. Proctos small, white.
Spines white, blunt, merged. 88 head goes below
proctos a.c. 12 slightly enlarged.
Food given 5 and came out = 1157 q.v.

1153A Strongly young 1153 but Hd whitish pale honey white.
Body transparent, jointed, whitish, d. vent. translucent
a narrow line. sd. whitish line & 2 shy lines. Shy
proctos, slightly more hairy. Shed June 14 = 1183 but d. later
broken down. 1 June 25. Out July 31. Cat. 24188

1153

Proctos on aspen Kaslo BC June 1 1903 *Spiniphora*
according to the collector and like the common one
in Colorado. Lives in a nest house of leaves
with a small hole at lower end, solitary.
Hd about 3 mm, rounded, black like *Hydromedusa*. Black
white in face which is edged by a brownish
honey black band; fine & entire of smooth
black. Body narrow, flattened ventrally 12 not
enlarged. Translucent, green from food & blood
a broad dorsal pale white band 3-13, narrow
before, all green, not constricted; a similar
band narrow & broken sd. line. A narrow
mottled white line recently trochial like
the feet black, 12-13, add. narrow tubercles
small pale white with dark brown dots, 14 at
lower corner. Spines white black edged. Skin
shagreened. Out July. Cat no 20507

1154 *Electrautes dupleyi* ^{Wals}

Selen Tintarid on aspen Kaslo BC, before before
described. June 2 1903 pupa
Out June 10 1903 Cat no 19140

1155

Leaf miner on aspen, Kaslo BC June 1 1903



Phryganetia? a kind of leaf covering
proctos often whole leaf, but with
palling. The back of the leaf only separated
from a long brown line across to a
corner slightly constricted. Rarely
on upper side of leaf.
(See slide).

Out June 12 1903 Cat no 19241

Phryganetia f. papilionella Ch

1156

Leaf roller & stitcher on aspen Kaslo BC June 1
1903. Makes a round roll, ends closed, sd.
cover with stitches outside; sets inner part.
Hd slightly whitish black, selected to brown in 12-13
on galls, a large d. in vertex, shining. Cth shiny black.
- brown d. distribution point and a dorsal, narrow
centering each half; edged by pale d. line; and rim
of 12 whitish. Body whitish, translucent, corded
grayish white, tubercles round, black, 12-13
11-12, 14-15, and 16. large, brown black. Setae
both long dusky. The feet black.
2nd June 24 Cat no 20046

Diaparsa arctophila Ch

1157 = 1152

Worms on plantain from Mr. Cochele
Hd rounded apex, c. 2, grey pub. brown mottled,
antennae in double grey (shiny) fine hairs and
in p. 4 lobes. Body cylindrical, rounded, 12 segments
enlarged. C-sh. black with a few pale dots and by
dotted sd line, weakly confluent. Body light brown
minutely dotted with whitish. A series of d. black
markings 5-12. Ant. throwing an arc from lat
angles anteriorly. Lateral clavately, cut by narrow
between ground, white d. line, it is small white
trace. Pale sd line black edged. SS line broad,
yellow by mottling, a brown ground till up to
edges show white, white dotted as all the
ground and esp. sd region. III-VI white, not as
contrasted as i-vii. Feet all pale.

Ant. Sept 8. Cat no 39192

1158

Selected on *Ceanothus* Kauls 11 June 1903
Hd elongate, oblique, scarcely bilobed, shiny, v. rufous
black. C-sh. large, black, & the feet all 7-4 dark
v. rufous except 2 light white incisions 2-3 & 3-4
which are folded, white all around. 5-13 black
in black lobes and dark v. rufous. Shiny about
= a white, the pale line d. sd, lat, stry. Fat pale
and flat v. rufous black. Tubercles small, black.
Antennae moderate, dusky.

Ant. June 18. Cat 19548-9

Selection ceanothivella
Black

1159

Yoope on *Ceanothus* Kauls 11 June 1903
Hd 2-4 rounded bilobed, shiny, green dotted with white
tubercles, setae dark. Body round, moderate, shiny
green, fine white streaks and dotted. Add. line white
faint, sd more distinct, both faint or concolorous with
ground on anal pl. Lat. line about like sd, dusky
yellow narrow, diffusing a yellow shade in the green
about it, especially at stigmata which are orange
brown haired. Tubercles hard, small, nearly black
feet green, Apt. 7 anal feet slightly black dotted
Ant. Aug 23. Cat 39320. *Antennaria purpurascens*

1160

Striped back wiggler on clammy grassy Kauls
BC June 1903 Hd rounded apex c. 2, shiny, greenish
luteous, eye black. Body rather robust, slightly
flattened, tapering a little at ends, somewhat
whitish green, a little luteous anteriorly, a narrow
broad yellowish white sd band over i-vii the
whole length, a little narrower & more obscure
at ends. Tubercles concolorous, hair black, brown,
setae moderate, dusky. IV+V. Feet moderate
pale abd with arch of crochets on round plate
5+ full prominent. (Died)

1161

Plain backed wiggler with 1160. Tullahoma, Hd pale
brown, a little black in 5 and fine lines on lobes
C-sh. rounded, luteous, blackest on head & lat. borders
with pale limiting line. Body slender, all shiny
yellowish, tubercles a little shiny. No marks. Ground
concolorous black ringed, later hd brown, C-sh. luteous
darker broad red, venter greenish. Markings
and robust, translucent.

2nd June 1903 Cat no 19680

1162

Larva on clambering gooseberry Kaslo BC June 1 1903
 Hd 1.5 rounded, slightly bilobed, strongly shequered.
 Pale brownish green, the sides small white.
 Body cylindrical slender, the skin densely clothed
 with minute spines and composed of the
 slightly elevated small white tubercles. Feet 10/3.
 Green dorsal small darker, a distinct white
 sd line 2-13 + trace of a lateral one, a circular
 dark brown median central line. Ventral tubercles
 white like dorsal. Setae coarse white, not
 long. Feet all green.
 Cocoon a nest of yellowish silk in leaves. Pupa green
 with a white dorsal stripe.
 In June 16 1913 Cat no 19404 *M. bursilata*

1163

Noctuid on clambering gooseberry Kaslo BC June 1 1903
 Hd 2.6 erect vertex in c. green, faint white dotted
 on lobes, ant. 6 mouth pale. Body cylindrical
 normal, 13 a little attenuated behind, 12
 a trace dwarfed. Green, streaked-dotted with
 yellow, slender concolorous, unmarked, D line
 white distinct 2 and 13, widened a little on
 first slope 12-13. Sd yellow broken dotted, broad
 w. a little on center of segs esp. on 12. Subapical
 line yellow narrowly linear, just touching lower
 edge of thorax, distinct + whitish on anal
 fork. Feet green, D 1 sd line distinct on 2.
 Spiracles white, black rimmed. cocoon
 Smaller larvae similar. Had parasites with stern
 on June 7. Slightly in red edged above
 On June 27 Cat 20326 *Hesperia binotata*
Narrowly esp. on 12.

Egg June 22 1125 seta July 16 1913 laid singly, scattering on leaf
 of leaf. Slightly obovate, near obovate without small
 flattened, brownish dark yellow surface flattened in

1164

Larva in wild cherry Kaslo BC June 3 1903
 Linear rather widely more like 1165 - rounded
 expanding into a long blotch green (pale) not
 broken. Just like 1165. (slide) Cocoon in harmonies
 On June 20 1913 Cat 19681

1163 cont. small hexagonal areas without raised ribs or
 any trace of ribs, minutely shequered. D. 8 mm.
 (slide)

1165

Larva in clambering gooseberry Kaslo BC June 3 1903
 Long tubular linear, more slender than 1162
 and rounded ending in a blotch. Green in a line
 at first part, spotted from the blotch by holes.
 According to labels, always in Cat. no. 18631 etc
 (made more good) Feet all present.
 Cocoon strong harmonies June 9
 On June 17 1913 Cat no 19536

1166

Webbing heads of *Epilobium* Kaslo BC June 5 1903
Probably same as BB from Colorado. Hd rather
a little, cordate, apex in 2, shiny brown, blackish
around margin, sutures pale. Csh shiny brown,
crusky tinged. Body contracted, small at ends.
Sparsely dotted greenish & glands olivaceous.
No granules. Setae few black. Tubercles minute,
brown. ii + iii in line, iv + v recurved, in line. i + ii
ii + iii approximated in pairs. Setae densely and
minutely brown granular. Setae rather long, pale.

1167 *Oxypterus ringensis* Muls.

Webbing heads & deforming leaves of woolly milky juice
plant Kaslo BC June 5 1903. Very little larva but
makes great showing as head is webbed and distorted.
The flowers compressed and from short dense and from
up, Hd small bilobed, pale brown yellow, mouth
forked. Body robust, taking a black at ends
feet normal slender, dilated at tip. Thorax broad
sheathed. Primary hair single coarse white
i + ii closely approximated the tubercle below; iii
single, iv + v closely i + ii, vi single, the tubercles
brownish ringed. Numerous small setae all over,
white, some, thickly clavate tipped. Olivaceous green
the feet dark. Setae densely covered with minute
black fine granules. Spinules black ringed.
Setae a half brown spot on iv + v
Large female & small male pale yellow with like larva
the small ones colored red

1167a. with 1167 female young (on slide). Shed and got the
capitate 20 hairs = 1167.

Ant June 25 Cut 20118

1168 *Arctips persicaria* ♂

Green Tortoise a *Ceanothus* Kaslo BC June 3 1903
Hd green of jagged bottom we lots and white
at base of head at tip, epistoma whitish. Body somewhat
green, a faint yellowish line along i and ii. Csh
pale faint bluish tinged. The feet bluish
tubercles moderate whitish raised conspicuous
with black hair tubercles. Anal pl. brown. iv + v
small black. Short black setae on side of behind
D. small dark green. Sep. coarsely annulate.
Ant June 15 1903 Cut no. 19381

1169

Webbing shorts of *Acrostichum* (Acrostichum wa-wasi?)
Kaslo BC June 5 1903. Hd round, apex in 2, shiny brown, a little
Csh rather large shiny bluish, transparent, blackish
to black behind. Anal pl. brown black with some
small shields on 13 and 14 single & red. Body
robust, tapering at ends, and very active. Tubercles
greenish yellow, good sparsely green. Tubercles
small but distinct. Blackish tubercles, i + ii + iii,
iv + v, i + ii + iii, i + ii + iii. Feet normal, short,
thoracic ones black. *Acrostichum acrostichum*
Ant in Sept by Currier

1170

Tortoise webbing aspen Kaslo BC June 3 1903
B. tuberculid? Hd somewhat elongate, shiny blackish
epistoma & base of ant. white, apex in 2. Csh
very large with the feet shiny black. Small
shield tubercles elongate. Body slender translucent
bluish green, glands large olivaceous. Tubercles
& with elevated, shiny tubercles moderate, glaucous
i + ii + iii, ii + iii, iv + v. i + ii little round to ii. Feet
normal pale. Spinules dark ringed. Shed. Hd. brown
black. Csh large, pale & gold before. Body green
Tubercles, dark green d. Tubercles elevated pale.
Ant June 24 1903 Cut 20117 A *Psacoma* ♂

1171 = 1179

Thimbleberry leaf beetle, Kaslo BC June 3 1903
 Ant. leaf across at base of the veins or that is, in and
 turn brown; also even but stem below. Spin. a web
 in the dead leaf, some leaves in large leaves seen
 1/2 starved, not having had a stem to eat & losing that.
 Soft yellow web in withered leaf
 Hd. cordate shining black the front mouth brown.
 Cth. large shining bristly brown. Body shining reddish
 waxy white, tubercles small slightly raised, a little
 black. Setae moderate, whitish. No other shield or
 marks. IV+V. Skin mainly sparsely granular
 under 87 diameters. Dorsal somewhat in some im-
 pressed, dusky, obscure. Venter Hd. bristly, body
 brownish yellowish (see above)
 Ant. July 20 C.A. no 23720

(1172) *Clethrionomys campestris* Zell

Red beetle-like on thimbleberry Kaslo BC June 2 1903
 Hd. rounded aquarish held oblique, smooth & even
 in front, 50 light, feet black slightly shining, 10
 minute a little black, small joint antennae
 feet. Cth. large dull black various tinted.
 Body slender, very active, irregular dark
 various brown throughout, anal pl. black.
 Tubercles small slightly raised, appearing golden
 brown shiny by reflection of light, nearly smooth.
 Setae moderate, brownish, longer on anal end.
 IV+V; on thorax IV+V & II+III also.
 One of Coches #10 Ant. G.A. no 19145 - Ant. June 6 C.A. 19403

1172A same late webbing thimbleberry. Hd. dark brown body
 green, somewhat fully whitish
 Ant. July - C.A. 20897-8 = 1179

1173 (9/11/91)

Scout on thimbleberry Kaslo BC June 3 1903
 Hd. of rounded pale brown, slightly bluish scaly black
 Body slender elongate, yellowish but filled with pale
 green from food tubercles small black with moderate
 black setae. Cth. shining bristly brown, anal pl. a little
 dark. Setae small and good dark bristly. Tubercles vi absent
 Ant. July (Ant. like 1144) Ant. June 7 Hd. 5-6 bluish, bristly
 reddish black. Body long & slender, translucent yellowish
 green, food green, withered water. Tubercles small
 slightly raised, setae stiff dark. Ant. June 10 Hd. 11
 all pale green, whitish, translucent. Tubercles small
 large, slender, white, no marks, no shields.
 Setae from pale. [Ant. another on same plant June 15]
 Ant. June 15 - Hd. 1.7 long, bluish, green, oblique, like
 full pale green, epistoma cartilage whitish, with
 short white hair before eye. Body moderate, elongate
 cylindrical seg. wrinkly, rounded, anal feet large
 projected oblique. Setae anal feet and dorsum of
 13 black in various, tubercles elevated rounded, like
 small button white. Very faint longitudinal white
 marked lines, dorsal dark green. (Ant. June 18)

1178

Pterostichoid on *Chromolaena* (Kashmir) June 1903
 Eating into bud in head. Larva well developed, little
 rounded, greenish, d. small, dense, hair
 large, rounded 1+11, 18+8, 10+2 on base of a
 small ant. but several other small 2^d hairs
 on body. Hair white, both long and short
 malpighian glandular tufted (57 diam). Hd
 bilobed, greenish, many yellow legs black
 mouth brown. Tubercles all whitish, slender, along
 1st 11 joint, + subventral band

But June 23 1903 Cat 19679 *Oryzopsis tenuicarpa*
 Same as described by me on
 blackberry Payson VIII 249 1898
 N. M.

1175-

Orchard in the blackberry Kears BC June 3 1913.
 Hd 13 green, small black. Body green, d. sd narrow
 slightly browned all white. Tubercles small
 black, 12 & 13 little enlarged dorsally. No
 shields (Reconables 1163) June 7 1913. Green above
 in 2. Body green, 12 & 13 little enlarged, all white dotted
 13 little enlarged white 2 and 13 narrow & little
 after 12, sd narrow, broad up on 12 & 13, 14
 broad broad its upper edge, over 13 little enlarged in 2
 12 white, dorsal, blackish edge brown. Head green
 shield brown edge white, obscure. Spinal black
 browned. Feet normal. green. Head June 10 Hd same
 body green with white acuminate dots, d. line white
 whole length narrow at ends, sd narrow, broad up on
 12 & 13. Supraespal white narrow. Below upends in
 2 & 12. 1 white, black trimmed. 5 June 16

Mammata racemosa St. 53

1176

Egg by 3 noctuid 18930 Kaslo BC June 4 1913
Laid in large round adherent. Spheroidal, base well
rounded, top irregular of end of ribs. Pale yellow
Ribs ± 25 broad, narrow at top decreasing toward
vertex which is reticulate. Area round bottom
about as high as ribs forming narrow quadrangular
cells. 2.8 height $.6$ diam. Later with brownish
dotted ring. Hatched June 10 Hd .35 round black
Long pale brown shiny streaked; antennae dark
Body slender cylindrical round, 12.6 length enlarged
sculpturing part of 7th small. Translucent yellowish
just green, tubercles small, smooth black. No. 11
abd. feet blackish. Cth reduced, tubercles, no warts
Head June 13 Hd anterior part brown reticulate with
cross line each side 5 ; eye black minute brown W. $.6$ mm
Body round uniform 12 enlarged. Feet 7 & 8 short
Pale green stippled with obscure blackish, broad d.
2 narrow lat & broad s.d. leaving a sd. lat, a broad
dy pale green line. Feet pale. Tubercles dark black &
pale areas. Setae short dark. No. 12
Head June 15 Hd 1. shiny pale green, water & little cloudy
eye black. Body pale green with broad straight stripe of
dark velvety green, sd. lat, supraclypeal, sd. the sd. broad
and darker at its edge. Head cylindrical, broad
but the face is more obtuse than them. Tubercles pale,
base dark & setae black, small.
Head June 16 Hd 1.7 shiny green, water more iridescent and
faintly dusky reticulate, scales black. Warts dark but
sd. lat dotted obsolete, the subcl. space forming a broad
greenish white band. Supraclypeal lat pale brown sd. lat
sd. broad greenish blackish green dotted filled.
Head June 17 Hd 2.1 Lat & supraclypeal dark. Tubercles more
reticulate dorsal & obscure greenish by dorsal edge.
Scales more obscure. Setae white. also 2.2 & over
Head June 23 Hd 3.1 head black apex in 2, green, a little
yellowish on sides and finely dusky green reticulate. All
round as before but still pale. Soft velvety yellow green
faintly dotted reticulate darker. Sd. broad and defined by its
edge giving a smoky d. greenish line the space between
sd. lat forms dark bands giving a just sd. line blackish
green edged, an obscure white dy line the feet yellowish
black in small dark, or black center d. (almost unmarked)

Egg by ♀ Seon, 18929 Kaslo BC June 4 1903.
 Elliptical flattened, depressed, imbricated and rounded
 (one slightly flattened). Pale green, ground of the
 edges of concave pits irregular hexagonal with
 no defined pattern but centrally where the
 pits are somewhat constructed they tend to lie
 in longitudinal rows; distinct raised but much
 based. $9 \times 6 \times 5$. Bluish green slightly pitted.
 (more by ♀ 18951). Egg nearly stuck under the label
 later with streaks & spotted with thin scales and
 tubercles June 12. Hd rounded bilobed, higher & wider than
 pale testaceous, eye black, mouth brown, legs rather short,
 brownish, active, burrowing. Pale green, d. sd a lat dusky
 streaked with, stig again marked pale, a sv broken line &
 venter broadly marked. Tubercles conspicuous but without
 the lower tubercles & often concealed, smooth. Feet pale
 setae short white capitate.
 June 16. Hd 5 rounded bilobed, anterior, eye black, mouth
 with round moderate convex greenish ground & small
 lined in whitish as before add sd, lat. stig. Cph
 lined, anal & with whitish edges. Tubercles pale; lat
 & venter black. June 22.
 June 23. Hd 1.05 (white) rounded bilobed, clear orange yellow
 with faint dusky mottling, in later, smaller black. Body
 moderate, not elongate pale green, anal end very distinct
 stripes broad, dusky obscure, obscurely geminate by their
 edges. d. sd. lat. subapically sv ventral heavily setae
 space broadly obscure whitish. T. setae small black.
 June 23. Hd 1.6 rounded bilobed full yellowish green, setae
 black, anal moderate not elongate, anal feet large spreading
 seen, add lat pale, darker green pigged, sd pale sides faint
 darker with a pale round lat. line close to & round yellowish
 white stig. venter darker shaded with pale sd ant.
 broad middle bands. Feet pale, tubercles conspicuous, setae but
 short in tubercles.
 June 28. Hd 2.6 (white) pale, oblique, light green feet
 reddish, scale in pale black, body cylindrical moderate
 smooth, light green the color of the young needles, slight
 white shaded along a d. line of darker green color by
 the white. sd & venter have white moderate equal
 faint area of round lat. & v. geminate & line yellowish
 very faint. Tubercles slightly broken dark, but sparsely
 obscure. Feet green smaller tipped to white.
 reddish, in ground July 9

1178
 Leaf miner in Birch, Kaslo BC June 1903
 Nerves first like the Ceanothus BB 1165 and used
 cherry ones BB 1164 q.v.
 And June 20 1912 cut 19693

1179
 Introduced in rose about Kaslo BC June 4 1903
 Hd squarish, full in front, showing some black, dotted
 about mouth. Cph lateral blackish blotched at
 bases. Body moderate, showing transparent greenish
 & glands faint whitish. Tubercles conspicuous, from
 setae small. Setae feet black.
 And July 21 cut. 21927 Acheris 17 (Kearney)

1180
 Leaf miner on Cornus, Kaslo BC June 1903
 Litch white Tarsus with black sd, shaded, & red.
 Hd in 2 showing brown, blotched with black. Epitoma &
 meso and pale. Cph large, blackish. Abd slender,
 sechiform columnar whitish. Tubercles slightly
 shining.
 And Aug 8 cut 30915 Epitoma lindana Fern

Oct 19 1913

1181

Egg by 9 beam. 1890. Hatched June 6 1913. Elliptical strongly compressed but instead flattened areas, de-pression marked, transverse band & black edged. Pate linear many longitudinal lines 9 or 10 with a flat side, raised from above, 2 or 3 place 2 confluent, merging at the base of transverse confined at other end. Cross stripes fine distinct forming 12 cells. Transverse nearly straight, oblong & determinate, concave, raised at midlength. Color dull bluish green. Size 8 x 6 x 4 mm.

Hatched June 13 Hd round, depressed at 5, pale orange shining. Body slender, rapidly tapering, normal. Pale yellowish with a s-v red-brown line which length, narrowed just at ends. No shield, feet pale. Subanal curved, long and elevated, setae whitish, capitate, both indicating immaturity. (slide) all with third June 18 Hd 5+ flattened rounded dark flat, whitish with a blackish line behind ocelli and a faint red-tinged one with contrasting lines of body. Body slender elongate, whitish but green throughout from food. A distinct narrow black line d. stripe c and x 13, fading in anal space. A slender clay line. Feet pale yellow very short with tubercles not visible.

June 22 Hd 8 rounded black, flatish but dome full, oblique, pale brownish green, not shiny a dark mark in v. sutures and a heavy line and/or behind ocelli of brown black. Body rather slender transverse green from food and shiny not annulate. 3 s-v stripes blackish brown, rounded, broad even sharp, covering underside of feet 10 & 13. The feet pale. Subanal 1 cell in width, one shield. Stripe to ends except u and flap June 24 Hd 9 pale.

June 25 Hd 1.3 Round flattened top towards mouth apex each foot, head flat. Clear green, a brown black stripe from ocelli, and a green also black. Head rounded, smooth, clear green d. brown-black series of 5 or 6 spots oblong, connected by a shade, a trace of white ed line ap. foot. Subanal line brown black, def. widened covering feet of 10 and 11 but on that of 13. The feet green a mixture of white hair say widened. Tubercles immovable, setae short dark. June 30 Hd 2, round, shiny black, head yellowish but transparent not shiny. Sutures narrowly depressed. Pale green, anterior 1 a stripe on side no more. Body moderate cylindrical normal. No shield, smooth, tubercles obsolete, setae annulate dark. Breast a diffuse white ed stripe, faint on 2 & 13, a faint white add patch centrally on all divided by a black dash and surrounded by blackish powdering on 5-9, faint on 5 & 9. A series of s-v brown except anteriorly black patches, oblongly connected by a faint narrow shade forming a line on the 2 staining darkly just of 1 & 2 and edge of foot 13. s-v tubercles black rounded. Traces of 1st & 2nd white line faint obscure. Red to 2 July 13.

1182

Eggs on clammery Goswamy, Haskins B.C. June 6 1913. In I Hd conical, shiny black with stiff black setae. Body shining, purple brown, spotted with white on 2-4, 6, 8 & 10 the irregular sd, but 1 s-v spots, brown of 10th spot s-v over 11 & 12 on the 10th seg. s-v spot, shields all black, set very small. Tubercle black, primary, 1 well developed to 11, 12 developed to v but below, single behind except v which bears 2. On this I as I's separate, 11 & 12 11 single, 12 2 haired, no subprimaries.

June 7 Hd blackish black, rounded with 3d setae, a strong seta at apex of somewhat produced 1st. Body with constant shining transverse line, blackish, a sd white line of irregular brown. Spine black except sd of 6, 8 & 10 which are yellowish white.

June 9 Hd black with short hairs brown on apex head, a few on 2d granule white. Body black with weak streaked white sd band, spine black except sd of 4, 6 & 8 and angled sd of 8 & 10 yellow.

June 12 Hd black shiny point white apical horn black. D sd black 2-6 orange (red on 3 & 4) 6 & 8 yellow, s-v rows annulate orange. Body black white sd band shaded & streaked on annulets, broken by black on 7, 9 & 11.

June 16 Hd black, sutures persistent, 2d comes black white apical short horn black. Body black but all marked with white, faint streaked on annulets. Head dorsally 7-12 but leaving a black oblique line before sd spine and an indistinct dorsal line. Spine shafts orange, bright on 3-6 dorsally. Spine on 10th of the joint shafts black. Sd of 8 & 10 yellow.

One July 7 Cat 20908 *S. zephyrus*

1183 (cf 1183A)

Wetland between some leaves of birch, Kaslo BC June 6
1903. Hd 3.5 bilobed, free, shining pale yellow, pale
pale brown. Body subcylindrical, 12 segments enlarged
towards front, whitish, front showing green
to line which narrow slightly. 5d. 1st ring
was narrower, 2 stig line was alone, 1 below
apical line was waved like the 2d. Feet
pale, no spines, tubercles small white in
above center of foot. The skin is perfectly bare
except the whitish fronted legs. Skin subcylindrical
head and covered largely by the branches of the
branches, both those for the skin and stomach
being separately visible. Spinelets white, very
ringed.

Head June 7 Cat no 20905 - *Cassia punctata*

1184

Salishid? between leaves of Epilobium, Kaslo BC
June 6, 1903. Hd rounded oblique, free, pale brown
showing a large smoky patch on vertex of each
lobe. Epistoma conspicuous, black and white, tip
of c of palpi & cells black. Cat large brown
to 1st. Subcylindrical in front edge. Body slender, smooth
not very active. Solid tubercles obli-
quous, a little rusty in the folds. Tubercles
concolorous with dark hair dot. and H. dark
lateral. The feet blackish. i-cii in line, iv+V.
(Head June 20)

1185

Eggs by 2 Tephroschystis 18965. Kaslo BC, June 6, 1903
Elliptical, the apex and base rounded, narrowing to the
broad end, flattings rounded. Smooth except for
slight reticulation of rather broad, a little raised
line with 11 edges, irregular hexagonal, a little elon-
gate in long diameter and gently waved. Pale yellow
iridescent beneath 85-diameter. 6 x 5 x 4 mm
Hatched June 10 Hd square bilobed. Pale testaceous smoky
shades, by black short horn. Ant. moderately flattened
broadly triangular, surface finely granular, slightly
subcylindrical, obscure, setae a few pale, ventral.
The lower, slender, all yellowish white in males
Shed June 16 Hd bilobed whitish, eye black. Body slender, very
whitish with narrow smoky black d. line. Segs finely
annulate, yellow above, capitate, alternately pale & dark.
Feet all brownish tipped. Cat number. Hd 1.6
June 19 Hd 1.0 bilobed, whitish legs dusky brown dotted on
pale ol. and c & ventral bands. Body rather slender
not much elongate, whitish or pale green, not shiny
parallel oblique. A broad d. dusky brown band
indented between i-cii, a 2d series of curviform brown
marks. Tubercles concolorous, setae short dark, alter-
nately directed forward & backward. The feet brown ringed.

T. subfasciata n. sp.

V14

1186

Egg by ♀ *Antarctia regina* red on Kaslo B.C. June 4/1963
Laid in a mass with a smaller 2nd large on top
Low conical, rather rounded. Retracile with
fine linear ribs, irregularly beset with small
and slight warts, occasional hirsute on the side
areas. Pale water drops. Surface and quite
smooth, slight conical shape. D. 9 H. 8 mm
very white. Hatched June 12 Hd brown rounded, with
projecting pale redish luteous eye black mouth brown.
Hd normal aciciform, whitish. ~~antennae~~ the 1st seg
black, lateral large blackish setae long. Pale III 2nd
ring single a large elongate plate on the 1st + 2nd, 11th
small separate. VI 2 hairs. (see sketch)
Hatched June 16 Hd testaceous shiny, mostly a overlay eye black
mouth brown, W. 5 mm. Body whitish showing green by feet.
Small, 18 as large as any, VI small with black with
dorsal long black hair and some shorter pale ones. (see
sketch) with the plate dusky.
Hatched June 19 Hd 1 mm round blackish pale, translucent orange
body greenish sparsely brown dotted becoming 1st leaving
a faint pale & brown. Mouth black, hair black & white.
antennae long, sparse.
Hatched June 23 Hd 1.4 orange luteous, ocelli black. Body
translucent green dotted with black. Mouth black &
pale. Hair black, white, irregular straight
D pale line defined and by black dots. Feet black
Hatched June 28 Hd 2.1 round blackish orange luteous dotted
slightly with brown. Body grey, sparsely dotted with
black without marks. Mouth and antennae faint
black or orange with black, large, normal. Horn
dull, uneven, pointed black, proleged rounded with
a long large pale oval. Spine white.
Hatched June 29 Hd 3.0 shiny blackish, shiny. Spine 1
blackish luteous brown. ocelli white. Hatched June 30
Body dark brown black. Spine white with a pale line.
Feet pale reddish. Mouth large blackish. Luteous
the hair from red, slight dorsal hump except on
large from oval of feet. white and black. 2 spots
on the back but dorsal & reddish. Spine white
black rounded. a red patch before III or 12.
Hair very from all grey red in front, brown red over sides
& red at side and dorsal behind.
Hatched June 30. Horn blackish
Hatched June 30. Spinning June 21 in ground

1187

Aphronia egg on Snowberry, Van Coult, Kaslo B.C. VI 6
Elliptical asymmetrical, narrow d-v. Leaf green,
primitive shape and a firm obscure hexagonal
reticulation. Scape of shining. 1.3 x 1.15 x 1.0 mm
(cf 1198) Hatched June 12 Hd rounded, cap like, slight lobed
black on the face but dilated on the sides almost to
luteous, epistoma pale; eyes black. Hd normal, horn rather
long, stout, tapered, black, bearing a setae at tip. Pale
yellow, 1st large black, then feet, anal by plates & shield &
hirsute black. Setae 1 pinnate, dorsal, black;
1 dorsal & 11, v dorsal & iv a sv fold, one subpinnate
on the 1st & 11 a sv fold from a single tubercle; vi of
2 small separate setae. VII & VIII small, black on legs, legs
horn rounded capitate setae. Luteous whitish green.
Hatched June 16 Hd 1.0 rounded, high apex under 2, orange, green
blackish on face below, pale with fine at base.
Hd normal, horn moderate, conical tapered, black, setae
fine annulate with numerous at base, showing a large
blackish except at ends, a pale ed line 2-brown. Mouth and
feet nearly black.
Hatched June 18 Hd 1.8 rounded longer than wide, somewhat
conical, green with a brown brown shade about eyes
extending up in a diffuse band each side & nearly to vertex.
2 granules whitish. Hd green, annulate, with dense at
white granules. Horn long tapered black except at ends
at base where it is luteous, or region to spine and head
in brown brown showing feet except patch of anal. A narrow
white ed line 2-brown. Spine fairly robust.
Hatched June 22 Hd 2.3 do shade faint & detached from ocelli
patch. Luteous luteous whitish sides yellowish, granules
white & yellow; dorsal blackish green. Ed line pale yellow
white at horn white in black at tip reddish & luteous at
base. Spine orange brown or less rounded by oblique
brown spots. Mouth single brown, feet luteous dark
anal plate & foot plates green.
Hatched June 27 Hd 3.3 rounded, higher than wide, 2 ocelli
green white granulate. Epistoma white, horn brown.
Eyes red. Body as before.

Tom green July 5

1188

Eggs by ♀ Seom 18957 *granitosa*, Kaslo BC, June 7, 1903. Elliptical, rounded, ends very nearly alike, no distinct hair-like, well flattened but distinct very flat areas. Ret. coarse dark raised, hexagonal, in cell areas concave like a triangle, about white all over. Sordid bluish green $8 \times 6 \times 4$ mm. Hatched June 13 Hd bluish green, mature depressed, light orange shining. Body moderate, a little flattened, normal. Feet yellow, translucent, green from food. Ant feet long and bent. No marks. Segs annulate coarse. Tubercles elate conic, setae pale, rather short, capitate (late June). Head June 16 Hd 5.5 Antennae eye black annulate brown. Body moderate, rather stout, sordid green, dorsum with many fine obscure grayish olivaceous longitudinal lines, a broad sky white band, not contrasted. Venter lined like dorsum. Feet blackish except anal pair. Tubercles coarse, blackish, setae short dark. Head June 19 Hd 8.5 Moderately flat before, a little higher than white bottom, mature dark. Body moderate, not elongate. Blackish green with a broad white sky stripe. Broad olivaceous with blackish dotted germinations. Ed. lat - sublat. 5-6 & median lines. The feet blackish with olivaceous tubercles small black on pale rings setae rather long dusky. Head June 23 Hd 1.2 Moderately rounded, level. Antennae green a broad orange black band at sides above, brown before eyes, ocelli & a whitish field, labium blackish shaded like moderate, not elongate, feet normal. Dark green, hairy shaded with blackish. D. 1st line narrow, colored. Side more heavily black shaded. Sky line broad white diffusely edged, ill defined pale SV and median V line with narrow feet blackish. Tubercles small dark obscure, setae dusky. Head June 29 Hd 1.8 Moderately flattened, level, broad, shining black green with a very broad band of black on the side of the thorax, a little blackened in brown on its edges. Body cylindrical, moderate normal, smooth, black green like old spruce needles, shaded with white a white add band to the dorsal. White 1st line joined at the ends, with grayish white not contrasted on irregularly rounded tubercles. Head, touching the long edge of 1st, not reaching the faint orange white sky line. A circular, less distinct duplicate SV band, touching a faint germinative white V line. The feet brown 1st green, 2nd black shaded. Tubercles conic, setae short setae rather long black. Setae on subventral spots on 6-8 shown distinct in the solitary band, olivaceous blackish

1189

Eggs by ♀ Seom 18955 *granitosa*, Kaslo BC, June 7, 1903. Elliptical rather thick flattened above & below in a small area, depression distinct, transverse distinct but rounded. Very finely pitted obscure, the cell areas showing by slight raised broad indistinct reticulations (evenly pitted all over like little waves on swell) in area containing about 12 feet. Pale green $8 \times 6 \times 5$ mm. (Sterile)

Senecioptera infillata Em

1190

Egg by ♀ 19019 *Euchlaena collaris* Kauls. H.C. Jun 8, 1903
 Roundish, conical, faintly reticulate, smooth.
 Shining pale yellowish white. D 1 mm. (Eggs infertile)

1191 (1173)

Egg by ♀ Leon 19030, Kauls. H.C. Jun 8, 1903
 also by ♀ 19097 Kauls. Elliptical rounded, smooth, the
 depression marked, all rounded, no feet areas. Fine
 reticulate with faint low line. hexagonal,
 fine punctate shaped all over. Pale honey yellow
 9 x .6 x .5 mm. Hatched June 15 Hd round, whitish
 thorax, legs black, mouth brown. Body thin & slender
 and not rigid, green rigid erect when disturbed,
 white, ends (2-4 & 10-11) yellowish brown in certain light
 from their retraction. No marks on shield. Subventral
 area brownish, setae stiff ~~black~~ rather conspicuous
 (all thoracic) Shed June 18 Hd .5+ round whitish apex & de-
 pressed, shiny light yellow ocelli black. Body slender, rather
 elongate, normal, conical acuminate. Setae rather coarse
 white. No shields, tubercles invisible, no marks. Feet green
 Shed June 21 Hd .8 round whitish, feet 1-10 full, ochraceous. Anterior
 shiny & depressed ocelli black. Body rounded, green from
 feet, unmarked, frosted uneven whitish. Tubercles a little
 elevated round, shiny colorless. Feet full, no shields, setae
 June 27 Hd 1.1 round, shiny, carinated laterally, setae brown
 ocelli black. Body cylindrical. Setae the central seg-
 well elongated. Translucent green, in some narrowly
 folded yellowish, tubercles small whitish rounded elevated
 distinct. Dorsal shows darker & broadest from white
 by transparency. No marks, no shield. The feet brown
 Shed 9 a broad stop. white. Shed 10 a brown & cross feet.
 Shed 11 a slightly indistinct on dorsum. Setae moderate.
 Shed 12 Hd 1.5 No change a little more white pigment, ind-
 cating a 1st line with edge of dorsal. Tubercles white
 elevated, setae moderate long brown distinct. Later 1st
 with red. Shed 13 a 1st line, a 1st line white. Anal seg-
 stops on anal feet 1st & 2nd of 10 stand with dark red.
 (continued = 1173)

Philaenus grandis *Test*
% Col

1192

Egg by ♀ born 19015 Kaslo BC, June 8, 1903
Elongate, elliptical, narrowed a little to truncate end which
is short and oblique, very little flattened and several
depressed, rounded. General surface reticulate, fine
beading to be a longitudinal line but obscure, pointed
shaped, runs in line flattened out except just at the
edge of truncate where a series of ridges project as the
ends of obsolete ribs, very distinct dorsal cross striae.
Truncation bulging, fine reticulate, a central round spot.
Bluish green, with a few red spots. 9 x .6 x .5 mm
Hatched June 15 - 1st inst. pale orange, later. Body black
fading to brown, pale whitish with brown d. & v.
brown black heads. Tubercles rounded. Venter
black, minute punctate. (see slide)

(see eggs by ♀ 19012 June 14, 1903.)

2nd June 19 1st .6 white with mottled dusky spots. Setae
black distinct. Venter black. Body mottled
dusky, obscure greenish white, d. & v. filled in to
white. 2nd line by purple brown, longitudinally streaked
obscure narrow line. 3rd line by white line. 4th of
broad purple brown shaded, segmental and irregular
venter white, dorsal obscure or broad concolorous green
tubercles & setae black small. feet pale. ant in a
spiral ball and hairy by the root.

2nd June 23 Hd .9 full feet, white with black dots aggregated
on each side of lobes. Ant black tipped. Body concolorous, grayish
white, d. & v. dusky filled in with a greenish dusky line
1st line brown narrow white, 2nd black, concolorous of the
3rd fold, a seg. black patch 2v, 3v and brown median
white line defined from concolorous green of crinkles
black dots. Feet white black dotted. Tubs. & setae black
the former esp. rather large & conspicuous. No shields.
June 25 2nd .1.1 (very young) black, blackish, like
solid mottled with black, purple dots, streaks. face white
very black dotted. Body with white streaks edged with black
dots on a purple ground, 2d, 3rd, 4th line brown white
impured with red a series of raised 5v black spots on
v. Tubercles black, setae. Venter & feet white purple
mottled, solid like dorsum. No shields.
(all dead June 29 - small) (collected)

(Probably not last stage. cf 1148 which is same size & allied)

1st inst. 2nd stage

1193

Noctuid eating turnip leaves Kaslo BC, June 9, 1903.
Hd green apex in 2, eyes with black central, minute
brown. Body concolorous & scarcely enlarged, feet normal.
Green d. 1st line narrow white line, dorsal
obsolete and lost in the white spotting. Subst. line
brown white more very broad but distinct, well
below spiracles on 2 & 3, touching them elsewhere.
Spiracles black tinged; tubercles white.
2nd June 13 Hd 3mm green washed with brown except
anterior. Body brown, mottled with gray and dotted
with whitish, d. line pale faint edged with narrow
line. Subst. line rather narrow whitish, dotted
brown yet a row not a line, white below &
green. Flw feet brownish, spiracles white in black
rings. Tubercles white, hair dot black. Setae
concolorous, esp. with white d. line
(died in brown juice)

1194

Brown Noctuid on the ground Kaslo BC June 9, 1903
Hd blackish brown, reticulate in dorsal brown with
curved vertical bands. Body dark brown, red brown
and light brown finely dotted and mixed. D. & v.
line white narrow, represented only by a few
dots. C. & fl. blackish brown, cut by dorsal line with
rows of dots with a few whitish dots. Radial
area about the black narrow spiracles. 5v
area partly white dotted but broad obsolete,
tubercles white, it not to center of anywhere
(wormy)

Mosquitoes at Kaslo BC (cont. p. 32)

262 Pool high on hill Arisworth BC. Partly lined
on valley of lake, springy, under a bush. Full
of pupae emerging reptans and a few larvae
in 2 reptans, calidus.

263 In a cold spring pool, Arisworth BC June 8, 1903
Pupa June 13

2 reptans VI 140 / dead pupa, reptans VI 16.

264 In pools and water holes, multitudineously
Ariseworth BC June 8. 13 out June 12, all reptans; 21
out June 13. (June 13 still 4 pupae & 8 larvae, these
labeled 264A pupa 21)

265 In a cold spring on hills back of Kaslo. Spring
nearly cleared of mosquito larvae by Sticticus larvae
and snails. A few in shallow side pools.
12 1 calidus, 1 reptans, 2 calidus out June 13.
June 14 1 reptans

266 In grassy pools and edge of stream near Fletcher's
Kaslo BC June 11 1903. Very numerous.
4 pupae as 264, several larvae. Pupa June 13
then seen calidus & reptans. [June 14 2 reptans
2 calidus.] June 16 1 calidus, 4 reptans. In July 20 incidence

267 Egg lost in 258 pool. Hatched June 12. Not one
out June 17, probably eaten by some Sticticus larva.

(trichurus)

268 Eggs by ♀ marked 268, caught June 1 & probably of species BB last egg
June 15 1903 Kaslo BC. Thinks from ends very
tapered, one side round bulging. Laid low, floating,
but sink at first touch or adhere to surface of any
marginal object. Black, surface very finely
granular. Hatched all over them, no micropyle, no
sculpturing. One end has a small circular hollow.
1 ♀, 3 ♂, 3 ♀, 3 ♂ Hatched June 23 1903. June 24 1 ♀, 1 ♂, 1 ♀, 1 ♂ Kaslo
Bridges and dark colored d. 25 June 25, 25 June 25-26 June 26

269 Wren of larvae & pupae probably in culms in a dry
pool near the creek road 2+ miles June 15. Out by
VI 20 calidus in VI 4 & reptans VI 12 incidence

270 Larvae in a waters puddle beside railroad track. Hatched
June 9 first pupa & incidence

271 Pupae and larvae in cold water dripping from a
spring near Keweenaw spring. Left from reptans.
In VI 16 and 17 June 1903

272 Eggs by ♀ marked 272 caught June 10 probably of species BB last egg
June 18, 1903. Much larger than 268 fusiform, largest diameter
at widest micropyle which is short truncate 69 blocks
very finely granular opaque. 2.8 x .2 mm
(pupae) [See p. 68]

1195

Eggs by ♀♀ Series. 19098, 19099, 19063, Kaslo BC June 9, 1903
Rounded ellipsoidal, truncate, flattening and depression
distinct by all rounded. Evening considerably reticulate
with rather broad, slightly raised lines forming
rounded hexagonal cells. Pale yellow .6 x .5 x .4
Hatched June 15-16 rounded bilobed insect. 5 high broad,
yellowish whitish with large round brown dots on
the thorax, setae dark. Not elongate & very slender
looking, finely annulate. Pale yellow. A d. 2d. pro-
thoracic line, varying in width, streaked on the annulate.
The long central segment double, composed of an
elongate small incision. Portion, and a large
cervical one bearing the setae. On the incision. Sub-
segs. are trace of an odd line which curves and
disappears on 11. Prothoracic shield lat. 2.5 x .5 odd line
on shields. Setae short hollow tipped & tub. brown (they
all Sticticus Epilobium)
Hatched June 19 Hatched 5.5 pale whitish brown dotted tubercle blackish
dorsal slender elongate, green from food, brown red brown.
Subventral - a straight, ad. bases. 2.5 lat broken,
sublat. many continuous. 2.5 x .5 broken. Sub pale
setae short, tubercle minute obscure.
Hatched June 23 Hatched 9.5 round full at side whitish with pink
dots on face of lobes. Not slender, pale green from food.
d. line narrow. First segment from black, disjunct in 2
apices & anal plate. First base of head, supra & sub-
line on center of segs. No shields. Tubercle conical, setae
short black capitate. Not shining
Hatched June 27 Hatched 1.4 rounded, slightly elongate. A depressed
oblong, whitish, opaque, granular a broad brown shade
on 1 & 2 lobes converging to vertex, and pale ocelli black.
Body slender, elongate, central seg. are lines as long
as wide, the incision. Portion slender ends plumbeous
the just appearing. Setae green, a little white (pale)
the yellow with brown blotches & fine a broad & band
on back capitate, narrowing and vanishing on 5.
a brown spot 12-13 out. A narrow round incision
white 2d line. Annulate incidence, a little obscure.
Incision obsolete. Setae short dark. The feet reddish
D. band may run whole length except a small 1/2 of 9
Spring at ground July 3. Larva stands on leaf and Vicia
W. grass which it eats and itself lying as leaf
around anal feet. Larva a loose bag of web covered with
dirt hanging from the head.

Hydrobia multifurcata Preble XLVI

1196

Eggs by ♀ Scorp. 19062 Kaslo. B.C. June 9 1903
Rounded elliptical, was flattened, truncate and depressed
two indicated but rounded. Smooth shining pale
yellow, sets barely indicated as shading lines,
regularly reticulate. .6 x .5 x .4 very shining

Hatched June 14 Hd concolor pale brown eye dark. Body slender curled S-shaped all dark with olivaceous with short capitate setae on shield no spines. Tubercles a few concolorous. Late Epilobium polygonum
Hatched June 19 Hd S whitish, dotted esp on sides with dark brown eye dark. Body slender, elongate, somewhat greenish for prod, broken faint ~~setae~~ distinct ^{setae}. feet dusky brown brown, the lat. olivaceous brown. Venter faint brown streaked, setae very short, capitate. Tubercles color with black hair dots. Sky region pale faintly, and dark on mid-dors. Feet pale.

Found 2 young, one small and one medium. Both young.
 Found June 26 1st of 3 found, tubular erect pale between a brown
 dotted band from ant. to venter sides of venter and a
 2nd faint one within. Body moderate, obscure reddish
 pale in 5 to 7 a small blackish d. spot & 2 small red
 ones. 1st lat supra seg faint reddish brown Subcutan
 brown pale, feet pale. Setae short, stout with rather
 large glandular tips. Tubercles concolorous, somewhat
 elevated. Venter obscure reddish lined. Thick covered

character. Various obscure residual signs.
 (June 27) ad 1.3 rounded toiled white thickly mottled
 with brown dots leaving a vertical band of pink color
 on face of hobs and one red from eye between which
 the markings are darker. Irregular, limited eye with
 over 1/2 length than broad smooth light brown, the feet
 yellow mottled with purplish brown. A central eye
 a black patch and a before it and a small eye on
 front above it. Dorsal ad. 1st, 2nd dotted pale lines.
 1st region broad of hobs, sharply limited above at 10-13
 with a ^{transverse} patch on line of foot of 10. Below. 5-8 &
 ad. 1 pale line with dark shading, below then
 feet pale tubercles white below shiny brown. Dorsum
 of 9-10 a broad pale as also 5 line conspicuously.

Jan 29
1904

triangulata

1197

Egg by egg from 1929, 1953 Hypocentrus notolani? Kasu II 9.
Ellipsoid round, no diameter less, no flattening nor
depression, truncation marked, oblique. Longitudinal
ridges low, oblique, straight, few, about 6 marks on one
long side joined by fine striae forming cross 3 x 1.
ends reticulate. Pale yellow. L. x .7 x .6 mm.

Hatched June 16 Hd rounded, testaceous, a little darker on vertex, eye black, mouth brown. Body somewhat oval, greatly elongate, rapidly drooping a rigid wire a thread, whitish, a broad dorsal band of smoky olivaceous and a still fainter ventral one, shading more than a shade. Feet pale. Larva very small, brownish, setae moderate, glandulae tipped with black (or red).

(late Stubby girdling) (June 19 picked one on the ground, [?])
 8th June 23 No. 6 + rounded lobes full rounded lobes with
 black dots, on lobes & around mouth. Body somewhat
 greenish blackish olivaceous. with 20, lateral line in-
 dicated by white sp. dashes, white grey line with black
 & grey spots at & largest on 7 at ventral orange trident
 showing hind & marked by blackish blotches at the lateral.
 Dorsals rounded, blotted black around. Setae obscure.
 Feet pale with dark lines from 15 to 20.

Shed [12] Hb 1.1 whitish with pale brown dots from head
around transversely; ant. prominent pale, venter black. Body
moderate size enlarged centrally by the conical tubercle
esp. 7. Pale brown. St. like broken with white dots. The
longest one on 5, edged with black shading. Side shagreen,
5-8th brown lined yellowish white, ill defined but distinct
a pale s. line, centering seg. 30 and venter crosswise black
nodes. Tubercles conical black, 2 prominent esp. on 7.
Ant. pale setae very short. Head black. 2 large eyes.

7-11-12. White-green washed with brown of light & orange.
 oblique dark streaks 2-5 on front & back of high tubercles irregular
 mountain blocks on sides esp 7-9 and a spiny continuation
 8-9 (head). Regular marks last. and 9-12 brown behind feet, legs
 7-12 light red shaded. faint whitish washed longitudinal lines
 more but one just 1st lat 2.0 space, like the last but faint down
 high tubercles conspicuously washed with white washes

1198

Eggs by *Lepidoptera flavifasciata* Cat 18994 - Kaslo BC II 9
 Regularly elliptical rounded flattened above & below
 smooth shiny green, finely blackened. Fine net.
 Obviously indicated under of dorsal. 1.3 X 1.1 X 1 mm
 (of 1187) Hatched June 14 Hd covered slightly lobed, full, pale
 greenish, w. brown. Body cylindrical equal, and fine with
 plate, brown rounded, short. All pale greenish with
 very distinct, the lateral setae of brown only blackish
 legs fine annulate, not shiny, of greenish lateral and
 setal rudimentary, a minute brown button with a
 short hollow seta. i dorsal & ii, iv well dorsal to iv
 (385 diam.) navi. a long normal seta on leg base.
 can. 1.5 x 1.5, ii 1.5 x 1.5, iii 1.5 x 1.5, iv 2 x 2 x 2 x 2
 seta on leg. body except these all minute. no shields.
 late Epilobium. Shed II 17 Hd 1.1 rounded full, whitish green
 black. Body green seg fine annulate dotted with 2d
 granular dots, whitish, brown annulate capend shiny green
 under part hind purple, 2 dark shiny. a white seta on
 leg and touching brown small flat plate large, green.
 Shed June 21 Hd 1.8 rounded lobed, apex in c, sutures depressed
 whitish green opaque, not shiny and normal, feet small
 seg 8 annulate, brown rounded to leg end. whitish green
 with brown. dotted with obscure 2d white dots - 2d line
 of dots, rather broad, 2 dots to 13 and, head up toward
 and not touching base. brown black greenish at sides at
 base. a little purplish dorsal. feet green, spiracles whitish
 Shed June 25 Hd 2.6 brown scanty whitish except for
 the white dots, 2d line more contrasted. brown with
 outer 3 green, middle light red, base greenish white
 with a black d. line. obscure black ring around the
 base. spiracles yellowish white with fine black edge.
 Shed July 1 Hd 3.7 rounded about as high as wide, outer
 scanty depressed, dirty black shining, labrum & antennae
 greenish white. Body covered brown polished & an elliptical
 button 2.5 mm long. the spiracles black shiny, rimmed
 and raised to a row behind surrounded by a narrow
 yellow ring and a broad velvety black one. Body
 cylindrical but moderate, anal plate large. Alar
 black dotted with dirty black & granular, leg black
 black the feet greenish white. spiracles whitish legs
 foreigner ochraceous. clasper and feet green.
 Shed d. 1.5 x 1.5 x 1.5 black checkered. 2d line
 absent.

January 1904
 Apr 1904

1199

Leaf of birch, a brown narrow linear from midrib
 branching with sides ending in a bladdery blotch on
 top of leaf about half eaten hollow. Saffron strongly
 behind, pointed tail with black tip. Hd & c. black
 (all shade) Shed June 25 1903 Coleoptera!!

1200

Parasitoid case on birch. Stiles lengthwise like
Agyneta.

1201

Leaf killer on birch. Tortricid living in bearded leaf
 and emerging & eat a like one webbed to it. Hd
 narrow black dotted with brown streaks. Col large
 black, shading brown on front border. Body
 tubiform green, ad fat body faint whitish transparent
 tubular shade white hair dots black. Setae stiff.
 feet. The feet largely black. 8 glands large dull brown
 Shed June 17 but 2! Cat no 19535
 (the legs are lined purplish, hd brown, c. blackish
 Shed July 3 Cat no. 20804 *Platynota pentana* of

1202

Eggs by *Haleisota alba* Cat 19152 June 11 1903, Kaslo BC
 Slightly more than hemispherical, very shiny pale
 yellow, a little iridescent. Rds very fine brown
 slightly line between the pores, hexagonal. D. 1.1
 Hatched June 17 Hatched 1.5 plates black, body white (white)
 late birch & willow. Shed June 21 yellowish, hd white obscure
 black. i 9 x 12 larger than alar when approximates the
 base interrupted, ii 9 x 11 large, iii 11 x 14 large throughout
 brown black & white. Shed June 26 black, hd white & all
 central hair yellow a few orange ones from it. white end
 Shed July 2 black 5 x 12 red dots 6-11 central hair yellow
 end white. Shed July 12 black 6-11 yellow with a red
 dot. Long white hairs in the black. Shed July 20
 Shed July 30 Hd 3.5 do. Last stage Aug 13. Central hair
 orange brown, end black with white pencil streak
 in.

July 28 04

1203

Egg by ♀ seen 1911, 1912, 1913, 1914 Kaslo BC June 10, 1903
 Elliptical flattened, brown below, uneven above
 by and depressed, indented smoothly on depression
 between mic and full, rounded. Mic end
 flattened. Pits large, irregularly hexagonal, raised
 about 1 mm. smaller in the indentation.
 Cell areas reticulation sharp and. Dead leaf
 from the whole of mic. flattening the dead brown
 a less pronounced shade in the indentation. 6 x
 45 x 35. laid down a leaf in rows, oblique leafing
 on each side. The brown end down and its color
 caused by the brown murelage which sticks it.
 (mic. end down! Should end be reversed?)

Hatched June 19 1st round, free, dark brown black cut
 shining. Body long & slender, curved S-shape, egg, finely
 annulate, elongate, dark brown a narrow, straight
 distinct white d. line, a broader but less distinct
 subdorsal one. 10-12 pale and with a white
 3rd band added. This part blackish, tubercle small brown.
 later than cephalic alar (side) (all dead tubercle & polygona)
 Hatched June 29 1st 3 rounded, 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, 31st, 32nd, 33rd, 34th, 35th, 36th, 37th, 38th, 39th, 40th, 41st, 42nd, 43rd, 44th, 45th, 46th, 47th, 48th, 49th, 50th, 51st, 52nd, 53rd, 54th, 55th, 56th, 57th, 58th, 59th, 60th, 61st, 62nd, 63rd, 64th, 65th, 66th, 67th, 68th, 69th, 70th, 71st, 72nd, 73rd, 74th, 75th, 76th, 77th, 78th, 79th, 80th, 81st, 82nd, 83rd, 84th, 85th, 86th, 87th, 88th, 89th, 90th, 91st, 92nd, 93rd, 94th, 95th, 96th, 97th, 98th, 99th, 100th, 101st, 102nd, 103rd, 104th, 105th, 106th, 107th, 108th, 109th, 110th, 111th, 112th, 113th, 114th, 115th, 116th, 117th, 118th, 119th, 120th, 121st, 122nd, 123rd, 124th, 125th, 126th, 127th, 128th, 129th, 130th, 131st, 132nd, 133rd, 134th, 135th, 136th, 137th, 138th, 139th, 140th, 141st, 142nd, 143rd, 144th, 145th, 146th, 147th, 148th, 149th, 150th, 151st, 152nd, 153rd, 154th, 155th, 156th, 157th, 158th, 159th, 160th, 161st, 162nd, 163rd, 164th, 165th, 166th, 167th, 168th, 169th, 170th, 171st, 172nd, 173rd, 174th, 175th, 176th, 177th, 178th, 179th, 180th, 181st, 182nd, 183rd, 184th, 185th, 186th, 187th, 188th, 189th, 190th, 191st, 192nd, 193rd, 194th, 195th, 196th, 197th, 198th, 199th, 200th, 201st, 202nd, 203rd, 204th, 205th, 206th, 207th, 208th, 209th, 210th, 211st, 212nd, 213th, 214th, 215th, 216th, 217th, 218th, 219th, 220th, 221st, 222nd, 223rd, 224th, 225th, 226th, 227th, 228th, 229th, 230th, 231st, 232nd, 233rd, 234th, 235th, 236th, 237th, 238th, 239th, 240th, 241st, 242nd, 243rd, 244th, 245th, 246th, 247th, 248th, 249th, 250th, 251st, 252nd, 253rd, 254th, 255th, 256th, 257th, 258th, 259th, 260th, 261st, 262nd, 263rd, 264th, 265th, 266th, 267th, 268th, 269th, 270th, 271st, 272nd, 273rd, 274th, 275th, 276th, 277th, 278th, 279th, 280th, 281st, 282nd, 283rd, 284th, 285th, 286th, 287th, 288th, 289th, 290th, 291st, 292nd, 293rd, 294th, 295th, 296th, 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1385th, 1386th, 1387th, 1388th, 1389th, 1390th, 1391st, 1392nd, 1393rd, 1394th, 1395th, 1396th, 1397th, 1398th, 1399th, 1400th, 1401st, 1402nd, 1403rd, 1404th, 1405th, 1406th, 1407th, 1408th, 1409th, 1410th, 1411st, 1412nd, 1413th, 1414th, 1415th, 1416th, 1417th, 1418th, 1419th, 1420th, 1421st, 1422nd, 1423rd, 1424th, 1425th, 1426th, 1427th, 1428th, 1429th, 1430th, 1431st, 1432nd, 1433rd, 1434th, 1435th, 1436th, 1437th, 1438th, 1439th, 1440th, 1441st, 1442nd, 1443rd, 1444th, 1445th, 1446th, 1447th, 1448th, 1449th, 1450th, 1451st, 1452nd, 1453rd, 1454th, 1455th, 1456th, 1457th, 1458th, 1459th, 1460th, 1461st, 1462nd, 1463rd, 1464th, 1465th, 1466th, 1467th, 1468th, 1469th, 1470th, 1471st, 1472nd, 1473rd, 1474th, 1475th, 1476th, 1477th, 1478th, 1479th, 1480th, 1481st, 1482nd, 1483rd, 1484th, 1485th, 1486th, 1487th, 1488th, 1489th, 1490th, 1491st, 1492nd, 1493rd, 1494th, 1495th, 1496th, 1497th, 1498th, 1499th, 1500th, 1501st, 1502nd, 1503rd, 1504th, 1505th, 1506th, 1507th, 1508th, 1509th, 1510th, 1511st, 1512nd, 1513th, 1514th, 1515th, 1516th, 1517th, 1518th, 1519th, 1520th, 1521st, 1522nd, 1523rd, 1524th, 1525th, 1526th, 1527th, 1528th, 1529th, 1530th, 1531st, 1532nd, 1533rd, 1534th, 1535th, 1536th, 1537th, 1538th, 1539th, 1540th, 1541st, 1542nd, 1543rd, 1544th, 1545th, 1546th, 1547th, 1548th, 1549th, 1550th, 1551st, 1552nd, 1553rd, 1554th, 1555th, 1556th, 1557th, 1558th, 1559th, 1560th, 1561st, 1562nd, 1563rd, 1564th, 1565th, 1566th, 1567th, 1568th, 1569th, 1570th, 1571st, 1572nd, 1573rd, 1574th, 1575th, 1576th, 1577th, 1578th, 1579th, 1580th, 1581st, 1582nd, 1583rd, 1584th, 1585th, 1586th, 1587th, 1588th, 1589th, 1590th, 1591st, 1592nd, 1593rd, 1594th, 1595th, 1596th, 1597th, 1598th, 1599th, 1600th, 1601st, 1602nd, 1603rd, 1604th, 1605th, 1606th, 1607th, 1608th, 1609th, 1610th, 1611st, 1612nd, 1613th, 1614th, 1615th, 1616th, 1617th, 1618th, 1619th, 1620th, 1621st, 1622nd, 1623rd, 1624th, 1625th, 1626th, 1627th, 1628th, 1629th, 1630th, 1631st, 1632nd, 1633rd, 1634th, 1635th, 1636th, 1637th, 1638th, 1639th, 1640th, 1641st, 1642nd, 1643rd, 1644th, 1645th, 1646th, 1647th, 1648th, 1649th, 1650th, 1651st, 1652nd, 1653rd, 1654th, 1655th, 1656th, 1657th, 1658th, 1659th, 1660th, 1661st, 1662nd, 1663rd, 1664th, 1665th, 1666th, 1667th, 1668th, 1669th, 1670th, 1671st, 1672nd, 1673rd, 1674th, 1675th, 1676th, 1677th, 1678th, 1679th, 1680th, 1681st, 1682nd, 1683rd, 1684th, 1685th, 1686th, 1687th, 1688th, 1689th, 1690th, 1691st, 1692nd, 1693rd, 1694th, 1695th, 1696th, 1697th, 1698th, 1699th, 1700th, 1701st, 1702nd, 1703rd, 1704th, 1705th, 1706th, 1707th, 1708th, 1709th, 1710th, 1711st, 1712nd, 1713th, 1714th, 1715th, 1716th, 1717th, 1718th, 1719th, 1720th, 1721st, 1722nd, 1723rd, 1724th, 1725th, 1726th, 1727th, 1728th, 1729th, 1730th, 1731st, 1732nd, 1733rd, 1734th, 1735th, 1736th, 1737th, 1738th, 1739th, 1740th, 1741st, 1742nd, 1743rd, 1744th, 1745th, 1746th, 1747th, 1748th, 1749th, 1750th, 1751st, 1752nd, 1753rd, 1754th, 1755th, 1756th, 1757th, 1758th, 1759th, 1760th, 1761st, 1762nd, 1763rd, 1764th, 1765th, 1766th, 1767th, 1768th, 1769th, 1770th, 1771st, 1772nd, 1773rd, 1774th, 1775th, 1776th, 1777th, 1778th, 1779th, 1780th, 1781st, 1782nd, 1783rd, 1784th, 1785th, 1786th, 1787th, 1788th, 1789th, 1790th, 1791st, 1792nd, 1793rd, 1794th, 1795th, 1796th, 1797th, 1798th, 1799th, 1800th, 1801st, 1802nd, 1803rd, 1804th, 1805th, 1806th, 1807th, 1808th, 1809th, 1810th, 1811st, 1812nd, 1813th, 1814th, 1815th, 1816th, 1817th, 1818th, 1819th, 1820th, 1821st, 1822nd, 1823rd, 1824th, 1825th, 1826th, 1827th, 1828th, 1829th, 1830th, 1831st, 1832nd, 1833rd, 1834th, 1835th, 1836th, 1837th, 1838th, 1839th, 1840

LV *Hypocrita americana* H S

1205

Eggs by ♀ Leon. 19124 Kaslo B.C. June 11, 1903.
 Ellipsoidal, flattened above & below forming a distinct
 flat area in middle of side ends essentially
 alike without distinct depression or truncation.
 Heavy white, shining. Ret. regular hexagonal,
 obscure, very obsolete on the sides, more distinct
 on the flattening. $75 \times 5 \times 4$. Laid single, adherent.
 Hatched June 16 1st inst., luteous, elict, eye black, mouth
 brown. Body cordate, not elongate but rapidly
 tapering, not marked, tubercles & setae invisible, pale
 yellowish, green from food, the incision folded yellowish
 (the last inst. clear) Hd. 5 rounded, luteous slightly
 brownish whitish. Body marked, green
 from food. Seg. incision folded yellowish, no marks
 tubercles & setae invisible.
 June 27 Hd. .95 bilobed, thick oblique, not shiny yellowish
 green. Body marked, seg. marked annulate, green
 translucent a narrow white sd line 2-13. Seg.
 folds forming yellowish bands. Feet green. Tubercles
 blackish setae minute brownish, darker tipped.
 June 29 Hd. 1.4 same, sd line rather broad yellowish
 white, not contrasted. Large coxal shield, segs not
 marked larger than wide. A ventral yellowish
 white band and a similar colored spot on VII. ♀ is
 slightly broader than male.
 June 30 Hd. 2.1 slightly bilobed whitish green marked with darker
 green slightly wavyish spots. Body cylindrical & double rounded
 marked on ♀, segs. wrinkled annulate just. Setae a marked
 with thorns. Sd line broad diffuse whitish on red feet
 brownish & spotted with dark brown and tubercles indi-
 cated by brown dots. Spinulae black ring, setae dark,
 pointed not long. A row of obscure whitish spots 2-8 and
 on segs and a broad & band, somewhat pale than ground.
 Setae red with purplish ventral band in holes. Prolegs at 10
 with ground-like.



1206

Eggs by ♀ 19149 *Patris angulatus* Kaslo B.C. June 12 1903
 oblong hemispherical, translucent, greenish white
 about 40 long ribs not change from the hollow, covered
 by a uniform hexagonal reticulation of slightly
 raised lines, one junction at the summit of a rib
 the next at base of a hollow. Apex conspicuously reticulated
 some irregular red spotting. D. 5 mm.
 Hatched June 17 1st inst., bilobed, brown black on water
 pale below, shining. Body rounded to 12 a little enlarged,
 feet normal, caput tuberculate honey yellow, the small
 tubercles blackish brown, legs pale, coxal round & so.
 Setae moderate, pointed, dark. The feet black.
 (Could not be found June 19)

1207

Eggs by ♀ 19233 *Leptanodryas*, Kaslo BC July 12 1903.
 Elliptical well flattened, rounded, truncation and depression
 distinct, all rounded. Minutely ret. with unmarked
 broad, rounded, forming cells with 5 lobes but not
 nearly so very distinctly and tending to run in
 long, diagonal. yellowish white, shiny. .6 x .5 x .4
 (studs)

Satyrata rubra

(Cont July 31 Cont 24187)

1208

Eggs by ♀ 19230 *Noctua rosaria*, Kaslo BC June 12
 7/3 flattened, base flattened, ribs ± 25, raised, rounded at
 front at summit apex concave, smooth, fine
 and raised, micropyle reticulate. D. of pale yellow.
 Hatched June 18 Hd. 3 broad bilobed, black, Δ high. Body
 olive brown, 12 enlarged, feet 7-8 short. Translucent
 white, unmarked, reddish from al. corn. on other feet
 blackish. Tubercles small, blackish with long pale
 granular hair. Setae iv below center. On
 legs shields. Spinal blackish brown (slide) etc. Polyommatus
 June 23 Hd. 5 round, shiny transparent colorless, smooth
 a vertex, short narrow feet 7 & small, whitish, slightly
 shaded up along iii giving a dirty white d. line &
 traces of yellow on. Shitler concolorous. Tubercles rather large
 blackish. Setae short.
 June 27 Hd. 8 round shiny reddish brown tubercles a dark
 on lower back curved line red side of surface. Body
 normal, equal. feet 7 & short, 12 slightly enlarged, dorsum
 violaceous brown, all brown, sides darker brown, venter
 again pale. D. of line narrow, pure white, dark line edged
 by narrowly broken. Slightly bent white filled with small
 dots on edges, tubercles small reddish black, setae short
 feet all pale reddish, shields not corrugated.
 July 2 Hd. 1.3 round, broad, slightly bilobed shiny pale
 brown, evenly marked. Body normal, 12 broadly
 enlarged feet equal. D. line white, narrow, translucent
 dark line edged. Sd of reddish flesh color, marked, containing
 white i & ii with black hair dot. Tail of dark brown marked
 just enclosing above narrow broken white sd. Slightly broad
 broad, flesh color, with bright white narrow edge. Sd of
 feet pale, marked in brown & white, feet all pale.
 July 6 Hd. 2. round shiny, pale, a heavy brown black line
 each side of, rounded above, a band in Δ, side having reticulate
 dark brown line, 12 not enlarged, 13 truncate oblique. Dorsum
 broad pale, dotted in brown of surface where a heavy shade
 under a subventral white d. line. Side below ii dark velvety
 brown with a strong & white broadening on sd line and
 a narrow lateral dilation. Slightly bent broad, white on edge
 dark red brown filled. The feet mostly short pale. Tubercles white
 with black hair dot and short setae. Shields uncorrugated concolorous.
 July 11 Hd. 2.6 round also slightly, shiny pale ground varied
 with dark brown red & black, reticulate broad very broad black, white
 edged feet. Body normal feet equal 12 slightly enlarged. Dorsum
 ochraceous brown, dotted, ret. centered & a dark brown shade.
 and i, white line darker on narrowing of d. line, i & ii whitish
 with black hair dot. Side dark velvety brown, ret. slightly
 at a spot, and by narrowing of sd line very obscurely. Slightly bent
 with white edge, filled with dark brown hair & setae
 red, whitish dotted. A 3-4 dilation. The feet brown, abd pale
 thin. yellowish white, black winged. M. small. July 18

Shed July 21 - Hd 3.5. Antennae set 2. Anterior brown. Last brown. Body =
 yellowish. Little at ant. Anterior white dotted. Brown set. D. brown white
 shed July 21 - Hd 3.5. Antennae set 2. Anterior brown. Last brown. Body =
 yellowish. Little at ant. Anterior white dotted. Brown set. D. brown white
 shed July 21 - Hd 3.5. Antennae set 2. Anterior brown. Last brown. Body =
 yellowish. Little at ant. Anterior white dotted. Brown set. D. brown white

81 1209

Egg by 19234 *Gonocarpus heterodoxus* June 12 1903 Kaslo
 Replacement. Base well flattened, smooth, ^{mostly translucent} ~~translucent~~
 2 ridges surface nearly reticulate in linear ^{mostly translucent} ~~translucent~~
 lines, slightly elongate vertically. D. 7mm. Pale yellow.
 Hatched June 18 Hd rounded, 4, 12 setae, edges mature and
 somewhat brown. Body white, normal 12 a little enlarged, feet
 all present, then ant. abd. a little smaller. Whitish,
 somewhat, col small brown. Tubercles minute. Mark 12
 in above, 1st plate enlarged dusky later moderate long (slide)
 later head dark green = spot, a faint brown col a lat line.
 Shed June 21 - Hd 6.5 rounded shiny whitish, head shaded with
 brown, ocelli black. Body enlarged 4-6 slender behind, 12 a
 little enlarged, whitish, green shaded. D. 8.0. Lat line
 distinct straight obscure. 28 by line broad white, then 1/2
 between it. Lat line filled in with brown shading, a
 5x brown shaded band. Tubercles small black, setae
 12 small. Feet strongly shaded on shields (all grass)
 Shed July 8 - Hd 8.5 very pale brown with dark setae on back of lat,
 even black body moderate, largest before tapering behind, 12
 slightly enlarged. D. 8.5. Lat line
 whitish, straight, obscurely dark edged; sublat line
 broad white edged above by a broad dark brown band
 the upper one the lower distinct more or less. Feet nearly
 equal all pale, tubercles setae blackish.
 Shed July 12 - Hd 12.5 round but almost spherical, feet oblique shiny pale
 tubercles small setae. Shaded in anterior side of lower neck black
 head slender tapering a little behind, 12 slightly enlarged. D. smooth.
 Tubercles small with fine lines. D. upper + lower 20 + lat line white
 almost as above as space, 28 by head white, between 11 + lat all dark
 rough brown 3-4 irregularly shaped brown. Dorsal more of feet whitish
 head colorless. Tubercles minute black, setae small pale.
 Shed July 13 - Hd 1.8 round shaded black full legs, shiny very white
 jointed red in brown. Body moderate equal feet equal. Pale
 brown, marked with dark brown. D. line narrow white, 5d head
 shaded granulate above, lat straight, a trace of a line below it,
 lower lat. straight, between these a line a broad dark brown area
 gray granulate of a dilution. 28 by head white below space
 on 2 + 12 28 by head from carapace - feet whitish. Tubercles
 dorsal lat slender. No shields.
 Shed July 18 - Hd 2.5 - Antennae white from set with vertical band a
 yellowish line from eye. Body mostly 1.5 inch striped. Ground pale cream
 a line white mostly dark brown edged broadly ventral with a
 faintly defined line along. 5d white, posterior dorsal brown
 edged above. 28 by white, acc. straight, 28 by lat. 28 by brown filled with
 a limited dilution almost a line goes lat lat. 28 by
 double brown filled with purple linear dilution, whitish
 sublat white granulate of head tubercles filling in are lat
 white dotted feet pale 28 by with small black spots,
 very conspicuous. Spines black shield concolorous
 head concolorous 12 lat enlarged, feet 2. Later head obscure

1210

Egg by 19144 *Euplexia lucifera* Kaslo BC June 12 1903
 Nearly spherical, a little conical, base scarcely flattened
 ± 30 vertical ribs, diminishing by confluence, sharp at sum.
 with hollows rounded, color straw fine, not raised.
 Anterior reticulate. D. 9 Pale green. (sterile)
 more egg by 22194 - July 16 1903. Later brown ring a spot.
 Hatched July 22 - Hd rounded black shiny black. Body whitish,
 moderate, 12 enlarged a whitish. Cth and lat by plate
 1st plate 1 tubercle black. Later legs round normal no edge
 a strong cylindrical colorless neck all along.
 Shed July 27 - Hd 6.5 pale brown, tubercles anterior shiny spotted on a
 line behind eyes a new vertical suture of same color. Body round
 with 12 enlarged, feet =. Thorax a trace small yellowish brownish
 green from joint a smoky black lat shade no shield. Feet pale
 1 small black round. Setae fine pale.
 Shed July 31 - Hd 1.1 blackish, whitish green, feet smoky spot on tubercles
 mouth whitish. Body moderate slender 10-11 12 enlarged
 12 dark green, 1 lat line dotted white, blackish edged
 5d brown white with dark band above. Feet pale whitish. No shields
 Shed Aug 5 - Hd 1.9 green with narrow of line darker dorsal, no shields
 12 enlarged, feet =. Trace, D. 1.8 lat line whitish, dotted, broad
 between 11 + lat center, gray, dark green edged, 6 fine dot
 to lat. 28 by head feet whitish, dark green edged above.
 12 edg. narrow white, feet pale T. white small. 2 fine.
 Aug 12 - Hd 2.5 velvet green to brown, marked 1 lat line
 to 2 in smoky brown. Line all absolute. Upper edge 5d
 a dark line, lower a faint whitish shade. 11 12 conspicu-
 ously whitish. Feet green.
 Seen, certainly not. Aug 14 - brown

Euplexia lucifera

1211

Blisters like urine on aspen upper side at tip.
 Larva min. short, hump, from not noticed.
 Blister large, on upper epidermis only separated
 white, adhering again in spots where the green
 coalesces, comes out, open up leaf on upper
 side and ate at ends of spinning.

Out July 25 Cat 22658

Myiophila pygmaella Felt

1212

Common on aspens, Kearsy St. desc. June 12 1903. Hd flat
 before held flat, after ec. green, a line of pale mottling
 on 29 lobes containing 5d of body. Body held flat
 to head, normal, smooth. Head, narrow bridge
 and 6 broad 5d yellowish pale line, filled i
 with yellowish mottling. Side mottled in
 four diagonal broken lines. Spines 4th
 winged, feet pale tubercle, setae obscure
 June 14 shaded with brown at the ends, to J?

Out July 20 Cat 21924

1213 July 4 on pine in dense forest with
 leaf golden & sp. lobes. Leaf folded with web to
 midrib on the underside, eat at the ends.
 Hd conical, held flat. Body blackish, bristled &
 6 pale line. Body slender, tubiciform. Dorsum brown
 dark yellow shades, along edge 5d side various lined
 under ovalish green. The d. mark is a d. and band
 washed light, sky and pale yellow, 5d mottled
 tubiciform, blackish. Head June 14 dull black, a
 white spot on 5, a spreading on a large one each side
 6th long black, bristled & pale, and ring of pale deep washed
 yellow & with yellow & white 5d line. Lat. ring
 brown obscure, 5d line white distinct, web has dark
 and each large. Tubiciform black. Head June 14 white face
 white, black web, sides on d. and brown top, and white
 & bristling brown white, June 14 yellow 5d last in the d.
 yellow surface, with narrow black tubiciform pale with black dots.

Myiophila n. sp.

1214

Eggs by 9 June 1918 Kearsy St. June 13 1903, Elliptical
 flattened, depression, truncation all well rounded,
 rounded, normal. Pits stellate raised, irregular
 of various size, markedly raised. distinct but cell
 areas very shallow surface finely punctate. Pa-
 green all over. 8 x 6 x 4 pale yellow turning reddish
 Hatch June 19 Hd conical, black, pale brown shiny with
 2 rows of purplish spots on each side, setae rather long.
 Body moderate, rather strongly looping, pale whitish with
 longitudinal brown bands about as wide as spaces, d.
 ed. lat. obscure, 5d and v. Feet pale. First few short
 dark setae granular tipped. Tubercle under brown
 (Pursh aspen, Polygonum, horseradish, cranberry, ceanothos, blackberry,
 hick, birch, maple, clover, myrica-like, parasitica, pine, spruce, fir,
 I woods, alder, fir, willow, violet, mustard, radish, Spiraea, raspberry) (died)

Myiophila fasciata Felt

1215

Box 11 1912

Egg by 4 Series 19143 Kaslo BC June 13 1903. Laid loose
 Ellipsoid, wedge shaped in side view, flattening not
 marked; truncation distinct, rounded. A series
 of low ribs running to truncation row, about 10
 visible on broad side. joined by fine cross striae
 forming a, the whole ill defined and dim,
 but very sharply raised right consistently so. All
 minutely frosty shagreened. Truncation convex
 reticular. $8 \times 5 \times 4$ Pale yellow turning red.
 Hatched June 18 Hd round pale brown a dark shade
 on vertex, eye black. mouth brown. Body slender pale
 whitish a dark red d. & lat stripe 2-13. Tubercles & setae
 in middle. Feet pale. No shields. (Failed to eat)
 Larva egg by 4 Series June 23 1903 (Lone) Set same June 25 1904 & 1905 adherent
 Hatched June 30. All same.
 Stage I July 8 Hd .55 slightly lobed, oblique, whitish, a brown shade on
 vertex and a brown below vertex. Body rounded, yellowish white,
 a broad d. & s-v dark brown black. even, straight to ends
 and a dark staining feet. Tubercles minute black setae short
 fine. Feet pale. No shields.
 Stage II July 12 Hd .8 round, s-v brown slightly depressed, pale yellowish
 brown shaded rounded on lobes, and a faint dark brown, scale black
 body moderate green from front, d. & head brown. blackish brown
 shaded greenish, showing small whitish black dots
 and edged by a faint pale red line. s-v band present,
 broken into shaded patches on obsolete. Tubercles in middle;
 yellow black black feet. A double oblique black line
 just above head 1.15 same. Body green, faint yellowish red line
 side of small brown d. & vertex. Spots compound on thorax, appress.
 of abdominal 1-13, a white spot 14. Feet pale. Setae black
 collected one on cecum July 17 Hd 1.2 to shield
 and a July 18 Hd 1.6 round, second whitish, pale feet. Green on nose
 vertex brown red, a pale yellow line on face above maxillary to
 vertex with brown spot below it. Antennae long light red.
 Body moderate, uniform and feet spread the irregular. Setae
 slightly enlarged acuminate. Light green opaque, a scale 4
 d. with yellow patch of red brown mixed with yellowish, on
 the 1-13 forming a broad, continuous band. Feet 9 13
 brown 14 small shield. The feet green. Tubercles small
 dark on pale large setae dark. Venter white antenniferous

1216 = 1215

2 egg by 4 Series 19126 Kaslo BC June 13 1903. Weakly
 attached, one loose the other easily detached. Ellipsoid
 depression, flattening truncation present, but not
 marked, rounded. Even finely weakly reticulate
 the cells elongate transversely being twice as wide
 as long. Parallel, their joining forming longitudinal
 line the without trace of ribs. Truncation reticulate
 pale yellow later convex brownish reticulate red,
 the brightening then obscure. $8 \times 5 \times 4$ same.
 Hatched June 18(1) Hd round, pale brown, a brown shade on
 vertex & the scales. Body label 1215 [died refusing food] (slide)
 Tubercles small brown, setae black moderate.

From bright red.

1217

Egg by 2 June 19286 Kaslo BC, June 14 1903. Elliptical well flattened, one end depressed, truncation rounded, not very obvious. Surface finely hexagonal ret., the cell areas rather deep & pronounced but not sharp and all overlaid by fine granular rugose. Towards large end the pores at angles not as numerous by large distinct rounded white elevations, but they become small toward center of egg and are lacking in small end and flat side. Fine central reticulation without white elevation $1.0 \times .6 \times .5$ bluish green, fringed by white dots.

Hatched June 23 Hd brown, luteous, sutures dark. Sd & V. head red brown, white, sd fused in 10-13 & pale rounded in 14. Sd white; also feet red, stained, the luteous (see slide)

Head III 29 Hd .55- mm bilobed, striated, a & epistoma white, a & anterior dark brown, 2/3 mm of gray dotting, on later. Body glauca, green white, head sd bands young, faint, dotted in 2 and band 4 band purple brown. Thor feet brown, black, abd reddish, white pale, setae black, with minute.

Head III 5 Hd 1.0 oblique, feet like full, white with vertical row of brown dots and head above brown ant. No nodate slight posterior. Antennae rounded. Dorsum brown, darker feet on seg. a granulate dotted d. line pale filled. 5-6 fold white and brown, venter darker, granulate line with fine granulate under v. pale line. Small seg 50 black spot under the white fold.

Head III 12 Hd 1.5 mm bilobed, slightly bilobed, a & depressed, gray spotted with black, bearded on lower edge of lobes and apex along anterior.

2 pale black in 10th. 5-6 nodate, slaty gray, slightly streaked in 9 & 9 & 10 elevated papillae black, with black sd black. Head brown, less distinct in other seg. a broader deeper white band along 50 fold. abd feet white outward, the feet band with black in front. Sd lat & cupro-sy pale line indicated.

Head III 17 Hd 2.3 mm rounded, granulate, broad head, white gray, mottled dark. a black patch each side, a below & across above mouth & on lower ant. No nodate, ii raised & marked a black sp. on 5 & 11, darker gray with trace of green white line. Dorsum 5, 6, 7, 8 white, whitish, with irregular black marks, whitish venter, mottled, in 50 fold. feet of 10 whitish, other gray 4 directed 2 & 3 apparent. Resembling both the records all depend [One had hd 1.8 to head. biggest had 2.6, indicating mutation, then]

2 J Aug 6

1218

Egg by 2 June 19229 Kaslo BC, June 14 1903. Elliptical rounded, one diameter less, scarcely any depression, truncation rounded; dorsal finely reticulate, the rets. elongate in long diameter, hexagonal, normally alternating, rather low, broad and rounded, the surface over all slightly oblongated. $.8 \times .6 \times .5$ Pale yellow (sterile)

M. albolineata Park

1219

1257
Bulgar on apple, like and probably = 1164 g.v.
Kashy BC June 14 1902 from Mrs. Cochran
Det from 23 Oct 19074-7

1220

1220
 Inland a yellow Red's form, 10d round, an acute
 indentation above S. pale translucent, greenish tinged
 1.3 mm. Red slender feet normal, 12 enlarged.
 Translucent white, foot green no shield, tubercles
 round small, elevated white; trace of d. & sd
 white line, sd most distinct. A rather broad
 white sub-sty band.
 Sub-sty 2.3 green, d. sd & broad sty white
 round. Tubercles: a few dots white
 Sub-sty 2.5 common green Anterior 10d 3.2 pale
 brown dusky, crossed with delicate brown lines
 a pale cross vertical band. Red normal 12 both
 enlarged. greenish sparsely dotted streaked with
 brown. D & sd line whitish broken dotted. Sub-sty
 broader yellowish white brown dotted; tubercles
 white small feet very tinged. Side whitish
 shaded blotched olivaceous.

1221

Scaphiopus - *hirsuta*, *gibbosa*, *pubescens*, *reticulata*
Hatched June 15 Dead July 24

Mauastix gaudin Old.

1222

Eggs by G. W. Wootton 19338 Kaslo BC June 15 1903. Laid
in a large patch. Flattly, spheroidal, base flattened
but little. ± 30 vertical ribs descending by alternating
broad rounded, crested by the longitudinal ribs but
weak, cross striae likewise weak, all over she-
greened wrinkly. Pale yellow D. 6 mm. Setae
with a purple ring and spot
bottled from 20-10 strongly bilobed. 3 dorsal tubercles
strong eye black. Body semitransparent, feet 7-8 short,
1 enlarged, cylindrical, translucent white, at anal
red, tubercle large, setae short stiff black. 1st pair
lateral with black spots at the tubercle & distal
by shield strongly. Tubs. normal. Large black shield
no subprimaries. "it - 11" & alveate in a small (this)
(late polygynous & common, but restless - quite a polygynous group)
Shed June 25-14. 6 white, mostly black, tubercle strong
eye black. Body equal round. Feet 7-8 small, 2 not enlarged
whitish from fur feet, otherwise shading leaving a pale
d. & 1st pair. The space below lat. line darker. Below
transverse line to center strongly pale. No shield. Feet pale.
Tubercle moderate, black & pale rings. Setae fine short
Shed June 29 14 1.1 bilobed pale feet, strong pale brown shield
mottled with blackish on apex of lobes. Body normal, yellow
d. & 1st pair a little enlarged d. Dorsal blackish line 20-25
green. D. 20. lat. line narrow white dark-shaded, darker
below feet. 1st pair black, subling broad white, greenish filled
No shield. Larva continuous, feet pale, 7 pairs, 8 small, 9-10
Tubercle quinate black, setae moderate, brown.
Shed July 1 14 1.7 Round low bilobed head, strong translucent white brown reticulate
strong fine from reticulate head & on fur eye. Body normal, 12 a
little enlarged, feet = brown dark slaty olivaceous, black centred
line shaded in an obscure ground, edging faint narrow pale d. & 1st
lines. A dark narrow band between subling lat. white line &
dorsal one, thin broad white pale narrow filled, 1st pair white
translucent navy, lightly blackish reticulate. Feet pale. Tubercle
white with black hair d. lat. Setae moderate dusky
Shed July 12 14 2.8 Shiny pale brown with dark brown band & ret.
Body strongly olivaceous d. red. Dark brown & white speckled shed
ing a narrow lat. d. & 1st pair obsolete linear subventral white
subling lat. & tubercle. Sty line linear white very appa-
rent. 1st pair, its inner edge represented by feet & body
white 1st pair. A little quadrate centering 1st pair with brown white
& black spots on 1st pair. Tubercle & setae minute.
Shed July 17 14 3.6 Small 1st pair red in brown reticulate head & on 1st
pair continuous distinct band shiny apex slightly d. 2. Body robust =
2 small enlarged, feet =. Dorsal dorsal purplish shading whitish
dorsal space. Feet pale no distinct marks. Brown dotted in white
shiny red. 2 black on a blackish ground; base of white d.
line & upper & lower edges of subling shade by an alignment of
dots only. 1st pair slightly d. shaded. Tubercle, setae fine brown
white, black minute.

1223

Scaptomyza cappa on nettles, one on top of the other, Kaslo BC
June 16, 1903. 10 noted sharp thin ribs, occiput flattened
very finely in longitudinal cross striate. D. 8 N. 1 mm
Hatched June 19

Small and large Scaptomyza on nettles June 18 up creek
black white whole length

Out July 8 1903 Cat. 20951

1224

On hazel, work and larva like 1199. June 15 1903 (1)

1225

On alder, work and larva like 1199. Larva hatching
June 15 1903. Bladder round much in young
leaf distended and downwards the top. (See slide)
No feet, pointed behind with a black tip.
Out July 3 1903. Coleoptera

1226 = 1228

Leaf mine in alder like mine on maple side and
contracted bladder. Then leaf folded over (pinned)
contracted seen up in a line, the leaf ruffled from
midrib to margin. In a few white cocoons
Out July 3 Cat no. 20801-3

Spilomyza longipalpis K

1228

Leaf miners on alder like 1165. Kaslo June 15 1903
(slide) 20298-9

1228 = 1226

Leaf rollers on alder Kaslo BC. June 15 1903. 1st
larva, narrow below, between, eye black, jaws brown.
Body cylindrical, rather short and robust, not tapered.
Feet normal, stout, rather short, whitish translucent
yellowish or greenish from food, no markings. Slightly
pointed beyond. Tubercles in white, setae fine pale
hairs concolorous. IV & V close approx. a narrow ridge
a line, VI present, VII a hair on leg base.
Spent June 24. only cocoon of 1226

1229

Not actually work
- fed. Selected a *Chlorothraupis* (not 1158). Hd. brown, pale
a water ocelli & jaws epistoma & base of antenna distinct
body slender, flattened. Tubercles in white; 1st black long
a white diffuse sd patch. Body light sd, lat,
and broader stg. whitish (pale), the former ended
dotted, containing 1 & 2 and in calf. The latter is
2nd, feet and mandibles tubercles black. Also a
dorsal white line below very fine pale. Cyl. faint
marked, no anal pl. Spin a tube in flower buds
thin white stg. of the larva into dots, or even obsolete. a
few scattered white dots on sides

1230

Leaf miners on alder Kaslo BC. June 15 1903. No
sign of mine on upper side. A blotch mine, small
cherry mark of back of leaf. The epidermis separated
as a thin skin which wrinkles and curls leaf.
(slide) Feet on 7-9 & 12 white, no markings.
Out July 3 Cat 21114 *Arctodes hexactyle* !!
more Aug 5

Candell found one on
Clearwater Jet 16

1231

Eggs by 19334 Acromyza crab house & Cocks, June 16, 1903
Shape of $\frac{1}{2}$ sphere, base hardly flat. About 50 microns
thick, diminishing along middle and again near vertex
into dimple & in section irregular round, else
nearly spherical shape. Whitish. D. 1.3, H. 8
Side all reticulate in dark red. Hatched 1226 Hd
and 1st abd. segment large and dark, black on vertex
leading to brownish black. 2nd abd. seg. white.
Head cylindrical, whitish, a narrow shade from
vertex to base on 10 abd. seg. with moderate blackish. 1 heavy
band with long, small hair, not single, no outsp.
This is a 4th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, 31st, 32nd, 33rd, 34th, 35th, 36th, 37th, 38th, 39th, 40th, 41st, 42nd, 43rd, 44th, 45th, 46th, 47th, 48th, 49th, 50th, 51st, 52nd, 53rd, 54th, 55th, 56th, 57th, 58th, 59th, 60th, 61st, 62nd, 63rd, 64th, 65th, 66th, 67th, 68th, 69th, 70th, 71st, 72nd, 73rd, 74th, 75th, 76th, 77th, 78th, 79th, 80th, 81st, 82nd, 83rd, 84th, 85th, 86th, 87th, 88th, 89th, 90th, 91st, 92nd, 93rd, 94th, 95th, 96th, 97th, 98th, 99th, 100th, 101st, 102nd, 103rd, 104th, 105th, 106th, 107th, 108th, 109th, 110th, 111th, 112th, 113th, 114th, 115th, 116th, 117th, 118th, 119th, 120th, 121st, 122nd, 123rd, 124th, 125th, 126th, 127th, 128th, 129th, 130th, 131st, 132nd, 133rd, 134th, 135th, 136th, 137th, 138th, 139th, 140th, 141st, 142nd, 143rd, 144th, 145th, 146th, 147th, 148th, 149th, 150th, 151st, 152nd, 153rd, 154th, 155th, 156th, 157th, 158th, 159th, 160th, 161st, 162nd, 163rd, 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1644th, 1645th, 1646th, 1647th, 1648th, 1649th, 1650th, 1651st, 1652nd, 1653rd, 1654th, 1655th, 1656th, 1657th, 1658th, 1659th, 1660th, 1661st, 1662nd, 1663rd, 1664th, 1665th, 1666th, 1667th, 1668th, 1669th, 1670th, 1671st, 1672nd, 1673rd, 1674th, 1675th, 1676th, 1677th, 1678th, 1679th, 1680th, 1681st, 1682nd, 1683rd, 1684th, 1685th, 1686th, 1687th, 1688th, 1689th, 1690th, 1691st, 1692nd, 1693rd, 1694th, 1695th, 1696th, 1697th, 1698th, 1699th, 1700th, 1701st, 1702nd, 1703rd, 1704th, 1705th, 1706th, 1707th, 1708th, 1709th, 1710th, 1711st, 1712nd, 1713th, 1714th, 1715th, 1716th, 1717th, 1718th, 1719th, 1720th, 1721st, 1722nd, 1723rd, 1724th, 1725th, 1726th, 1727th, 1728th, 1729th, 1730th, 1731st, 1732nd, 1733rd, 1734th, 1735th, 1736th, 1737th, 1738th, 1739th, 1740th, 1741st, 1742nd, 1743rd, 1744th, 1745th, 1746th, 1747th, 1748th, 1749th, 1750th, 1751st, 1752nd, 1753rd, 1754th, 1755th, 1756th, 1757th, 1758th, 1759th, 1760th, 1761st, 1762nd, 1763rd, 1764th, 1765th, 1766th, 1767th, 1768th, 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1241

Eggs by *gg* *Feltia rancevora* #19433, 19445 etc, June 18, 1903
 laid singly, adherent black under in part. Heavy spherical,
 the round half, spherically flattened. about 40 ribs
 low, and short, diminishing toward vertex. Ribs
 are all forming crest to the ribs and cross striae
 between, rounded, not sharp. All granular
 irregular. Area about vertex reticulate, the
 crest itself a raised cone with arch of granular
 cells. Pale yellow. D. 9 mm. Later broken but hinge spot
 Hatched June 25 Hd rounded lobed, wider than high, 5 high
 black, chitinous & contains whitish. Body colorless, whitish
 green from food. Tubercles & tubercles blackish. Tailed
 tubercles with 2 detached setae. Tails not long, setae pale
 with bulbous tips, in about center of spiracle. The feet blackish
 and III 2 Hd 4 rounded lobed, shining black. Body colorless, whitish
 12 not perceptibly enlarged, reddish greenish with faint marks
 & brown washed longitudinally. Cth & D. pale shiny black feet
 of 7-8 small. Tubercles small, black, setae short, distinct. The feet dark
 and III 8 Hd 6 rounded quadrate shiny black, setae pale. Head
 small brown, green shiny a little. Hd lat line fine, whitish. Head
 colorless, pale, 50 more whitish. Cth shiny D, tubercles
 small, and ft. 1 by shield shiny black. Feet 7-8 smaller
 and III 13 Hd 8 rounded broad, brown lobes shiny black, black dots on
 face & patch on eye. Body dark reddish brown, the shining line shiny
 a shade paler, dark edge. Tubercles rather large, brown black
 shining, mostly. Setae short pale, enlarged at tips slightly
 and III 15 Hd 1.2 round oval from back one lobe, 3 and two short
 eye pale oval. Body whitish uniform, 12 somewhat enlarged
 dark oval brown, a pale ed line contracted at in lower in dorsal
 a broad pale dorsal space near filled with dark, a pale line
 obsolete. Side dark strip right pale, lat line obsolete. Tubercles
 rather large and black. Cth large shiny black-brown, Setae short
 and III 22 Hd 1.7 same, 12 some enlarged, pale d. Sp. distinct
 with central & shape marks. Setae dark lat line indicated
 no other distinct marks. Cth large, dark with pale shining line
 Sp. distinct & 14 same together on a black spot
 and III 24 Hd 2.2 same shiny red. 3 some id 2.5
 and III 30 Hd 2.8 Cth shiny black with lat d. 1.3 lat line, D. No
 pale with faint d. & Dth shiny black, lunate distinct
 line on 2nd joint, T. large black shiny. Hd brown, setae
 black with d. bands.

more by 20930 July 11 (next page)

T. communis Dyar 84

1242

Eggs by little *gg* *Tachiniscus* 19466 and 19553, Kaslo BC
 June 19 1903. Spheroidal, base flattened, upper half
 more rounded. Ribs rounded, descending on base
 Ribs also rounded creating ribs and forming cross
 striae. Apex ret. mic with circle of scales. Pale
 yellow, d. 7 mm. Slightly adherent
 Hatched June 25 Hd 4 rounded pale bottom with dusky spot
 on the tubercles. Body colorless, whitish, feet 1-7 very
 small. 9 & large 9, 10, 13 normal well developed. Whitish
 smooth green from food. Tubercles rounded, shining
 Setae long pale, with small bulbous tips. is also center o.
 and July 2 Hd 5.5 rounded pale reddish bottom, dark spot
 dark on lobes & in vertex. Head shiny black, shining. Setae
 12 enlarged d, feet 1-7 a little smaller. Shiny brown, dark
 streak on the side. Setae indicated greenish at tip. Cth
 blackish brownish. Head lat black. Setae rounded, shiny
 and July 9 Hd 8 pale whitish, a smoky shade at vertex, shaded distinct
 with black on lobes & in vertex. Body shiny black, dark brown
 shades with narrow yellowish border d. lat line. Cth shiny and
 & spotted with blackish. Setae long, of shiny black in distinct, Setae
 all pale. Tubercles rounded brown. Setae rather long, glandular tips
 feet normal equal with dark shades
 and July 12 Hd 1.2 pale brown shiny spotted with narrow black dots in
 on surface & on lobes. Body shiny, the dorsal lat, 12 enlarged
 pale brown rounded & spotted with blackish. D. line narrow
 whitish, narrow edge. All shiny whitish shade. Feet near distal
 over to found ed dark marginal supra sign above dorsal
 shaped & rather olivaceous shaded. Irregular white spots refo
 revent whitish band. Tubercles small black, setae short pale. Cth
 pale shining black pointed, shiny lat d. lat line.
 and July 20 Hd 1.8 after a 2 small tubercles with dark round black
 spots except a face & a line on lobe. Body shiny shining
 flattened 12 shaded enlarged blackish grey blackish black
 shaded & whitish spotted & a pale brown point. Shaded concolorous
 shiny light ed shiny feet ed found & defined on 5-12, on shape
 on (2. darker shaded blackish). Setae long pale, radiated red.
 shading to subventral all white dotted. Trace of pale d line.
 and July 24 Hd 1.4 same & shaded July 22. Setae, lobe 1.8-1.9 same 5-12 same

1243

Eggs by ♀ seen 19523 Kaslo BC June 19 1903. Rounded elliptical, flattening towards left rounded, mucicystis end truncated, narrower than center other end depressed. Pits. regularly hexagonal, low rounded distinct, becoming larger at truncated end, all over finely granular. Opaque green. All areas distinctly marked. Pale yellow. $7 \times .6 \times .4$ mm.

Hatched June 24 Hd round full, 3 high, pale brown jointed. Brownish spotted on the tubercle, ocelli black. Body moderate normal, pale whitish, unmarked. Tubercle small dusky setae moderate pale granular tipped. Legs irregular wrinkled annulate. No shields. Feet pale. (See Epithelium)

Stage June 25 Hd 6 round, 10 high, erect, whitish with faint pink spots on sides of lobes, ocelli black. Body moderate whitish, green from the foot except at the end, a narrow dusky line of line; tubercle low white. Tubercle cornered, others setae short black. Setae indicated pale 2d line feet pale.

Stage July 1 Hd 85 round, 10 high, 2. Body moderately slender smooth green. Tubercle pointed, ocelli black. 5d lat 2 1/2 line green white broadly contrasted, 4 rows dark on 11-12 marked a purple brown. Feet pale. Anterior obsolete, setae short, dark. 6 white purple on foot 10.

Stage July 5 Hd 1.5 round, 10 high, 2. Body moderate, whitish, green, white shaded, 4 rows green. 5d line white with contrasted, or pale whitish. The feet faint brownish, a purple band on foot 9 and 10 on 12-13. Tubercles small round with elevated edge white, a white line on anal foot. Setae short black. Some appressed into reddish dots bordering a pale line. a s.v. tubal band purple shaded. Apparent molt. July 18 but died at 3.

1244 = 1207?

Eggs by ♀ *Leptocryptis* 19521 Kaslo BC June 18 1903. Ellipsoid elongate, d. & diameter much less than width, truncated & depression slightly, the ends nearly abited. Perfectly smooth. Shiny pale yellow scarcely even shadowed. $7 \times .5 \times .3$ mm. (Sterile)

egg shell - with mottled

Aphidius adjectivator Dyar
LVII

1247

Eggs by ♀ Scum, 19450 Kaslo BC June 18 1903. Elliptical, flattened flat above & below like cakes cut out of dough and ends a little depressed, no truncation. No area represented by a slight oblique rugulosity. Rets indicated only by the white pores at the angles in a nearly hexagonal pattern. $1.1 \times .7 \times .5$ mm. Orange ochraceous, shining, later dull reddish. Hatched June 27. Hd rounded erect, not shiny, orange, with short stout slightly curved setae. Body very short and robust, flattened, joined to lateral projections yellow brown, a narrow d. line. The 1st wings dark brown. No shield. 2nd d. 3rd d. setae are raised in irregular club shaped papillae, no 7th; 1st is prominent elevated, a truncate papilla bearing the seta in the ant. aspect. On 5-8, v. is raised dorsad in line with 1st and the 2nd raised on an angular prominence. Tubercles small blackish, setae blunt, swollen tips, 11-12 setae of flattened fan shaped and club at tip. A broad ill defined d. and v. band. 1 elevated in a papilla on 12. (Note with more info 2 2016) June 27.

And July 6. Hd 5 rounded bilobed brown shining granular in pale. Ant. flattened with very short, double pointed projections on 2nd lat. Tubercles 2, 3 & 12 conical, rounded. Light brown with many pale points, lateral papillae setae rudimentary, a broad dark brown area on below flange with light green. Ant. cavity light brown. Feet pale. No attached wings. And July 19. Hd 8 and bilobed, not granular dark brown, face smooth, subventral surface of 6-8 granular, that up. 1st tubercles 2, 3 & 12 high papillae, small and 12. Light brown. Shining pale granular, sides below flange dark brown, d. line dark. July 30. Hd 1.1 in change, Hd higher than wide feet before bilobed rounded, surface deep fine papillae roughened. All pale whitish brown, fine papillae granular, the spinular points pale. Head unmarked, a series of 5 brown spots on ant. edge of seg 6-8 under side of flange 6-9 and 1st dark on 12. Prominence on 4 concave collar, 2 on 1st seg 2, side angle on 3 ex. 1st flange a series of 5 seg. distinct double raised on 6-8, 11 & 12 a high cone. To 5 obsolete, the fine granular almost furry. Aug 12. Hd 1.6 mm bilobed 5 depressed at apex, granular, face pale creamy brown, black shades a narrow 1 on side. No. known to be before, creamy brown, soft, velvety, spinular granular, shining marked with darker streaks on under side of flange and a brown dot on 11-12.

ate weed cherry - brick
caper

distans? (23) 1248

Eggs by ♀ Alwayton 19463 Kaslo BC June 18 1903. Flat, circular, low domed, singly or partly overlapping. Rets ± 6 about the margin, diminishing by alternation towards center, distinct. Spinous waved, almost beaded. D. 1.1, H. 3 mm. Hatched June 24. Hd shiny black smooth brown. Body whitish, 2-6 clean minus d. 11 weak, white 12-13 brown. Warts large blackish, many haired, 11-12 slight v. absent, by shield faintly infuscated with a bar. On the 1st a c. 1 found at base, 11 & 12 shall separate, one subfemoral. Feet pale. Hair blackish spinulose. C. 11 infuscated (white) later only 5 seg 12 minus red, the other segs fading to white. Later pale parts of face white, red-brown marks, shiny edged with slight angular ones on the white segs. And July 30. Hd 2 bilobed angular shining black, robust, dorsal surface of the thorax blackish. Sides white on sides 2, 11 & 12. Dorsal warts small, dark spinous, 5, 6 & 9 12 marked with same color. Hair black, rather white. Later a continued dark d. line, 1st seg 12 shining black. And July 30. Hd 2.1 bilobed, apex sharp, no suture defined shining black. Body robust. 5 a little elevated, warts large black, hair thick black with pale area spinulose, body mostly dark. Seg 12 between the warts 6, 7 & 11. Feet all dark. And July 12. Hd 1.5 rounded quadrate, flattened before, shining black. Feet black except 5d 6-7, 10-11 which are dilated yellowish. Warts round, black elevated, hair black, bristly, rather brown, even on 11 white about the dilations and 5d, and 12. Feet dark. Hair 5 & 12 rather dense than elsewhere. In more all segments hair 6-11 is ochraceous. Warts hair all brown black. And July 16. Hd 2.1 black warty black, d. of rather widely base. Hair at the end of each joint a wholly black the central one, dark grey red. Middle 1st seg 12 yellowish green. Hair rather soft. Angular length even and very long, not bristly. And July 18. Hd 2.0 bilobed rounded slightly black shining above and white below, dorsal a narrow blackish line, shiny black throughout. Warts large, round, shining, length 2 whitish hairs about the base, very large, narrow, leaving a rather wide space. Hair on 12 11 on 5 & 12 light brown, the rest blackish black, stiff bristly but mixed with softer spinulose ones. Hair on 11 and 12 brown white length mixed with some blackish, a fine reddish shade along 5d fold, not very marked. All hairs short 11 and 12 subfemoral d. 11 spinous mixed with soft spinulose ones. Hair all black (11 still white spotted) on 1st hair 2-5-12 dull red, the rest white except from inner side of 11 and d. 12 which were black. A large hair at 12 shining long.

273 Candell and Currie got a lot with big 254, 16 miles up the Kaslo Creek June 18 1903. Pupae (II) and larvae which seem consobrinus and reflexus. Water was cold. Insects 21 4 reftans, III 24 2 reftans.

274 Got a sample of consobrinus? from the old swampy hole by the overgrown stump. Larvae and pupae numerous. Larvae in green oozes. 5 pupae as 1104101. 2 pupated June 19. Last 1120 consobrinus, 1122 quidodius 5100 June 23 (larvae larvae left, no pupae) all incidens. Insects 29 incidens. III 1 consobrinus, 4 incidens & VII 3 incidens.

275 Several larvae from cold pools above the electric light works June 23 1903. Insects 2 incidens.

276 Egg by Calypso contained taken June 15. Laid June 30 1903. Distended curved, not very black, some faint gray. Single, shining. Hatched Jan 23 1904 (taken in) side sketch. Shed June 28.

277 Larvae in old spring hole at cabin on north road June 29 1903. Appia consobrinus. Insects 8 consobrinus.

278 Larvae in new spring hole a few feet from 277. Appia consobrinus. Insects 17 4 incidens (aestivialis).

279 Eggs by little mangrove like reftans but with white legs. Stage 0. Hatched June 26 and laid Eggs July 8. Singly, shining at first. Shape a thin flat spindle shaped, one side flattened, shorter than reflexus. Not so wide & opaque as syllae. Black smooth, not very shiny. Very minutely but distinctly & rather sharply punctate. One end round pointed the other bluntly truncate. L. 6, width 2 mm. None 5 20 3 July 13.

281A (cont) in color. If 9 5 white is a black spot, one 11 12 dark red. Larvae white granular, covered with white dots. Col. lat. yellow. 8-9 single white dots. Anterior ventral broad pale marking to 8y line. Body thick from dorsal or a greenish green, the greenish shiny. A darkish dorsal line from 5, 6 large round white dots. No 8, sides 12 and all 13 a little lightened. No shield. Tubercles white rounded. Feet pale. Abdomen red with white tubercles. Anal black. Head. Larva from July 13.

280 Larvae, pupae in sulphur pools in swampy land. Banff, Alberta. Sept 10 1903. Insects 15-17 incidens.

47 egg by 4 19672 without ocherous, June 22. Banff, 1251 hd. 1.2 July 12 same exactly as 1251 A (Nepes dying)

Sulphur

1251

Ata hirsuta

4 Eggs by 4 Hemiptera 19460 Kaslo BC, June 19 1903. 1/2 ocherous, base flattened. Rounded under. 40 into narrow, rounded, curved, with faint obsolete cross striae. Apex broadly reticulate. The cells are broad as 2 ribs, quadrate: then smaller cells than microphyse with papiform cells. 2/mm. Opaque green (sterile). 2 1/2 hatched June 27. Larvae rapidly growing & stretching. Hd pale brown. Body whitish, translucent. Green in all coils before eating. Larvae from green egg which does not turn red. Tubercles rounded black, shields convex. The elliptical by feet 9, 10, 13 mostly. Jan 9 7 1st very short. 2nd tubercles. Hd rounded blackish feet blackish.

None 1251 by 4 20206 June 28. Hatched 2 1/2 at a distance. Hd 1.2 July 12. Hd 6+ elongate, vertex full, oblique, gray whitish shining. Head black. Body a band on vertex. Hd from dorsal to above D. Body slender elongate. Feet 1-8 very short and not much, slaty gray, greenish distal. 9, brownish last. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

47 July 16 Hd 1.7 black, oblong, base full, oblique, gray whitish shining. Head black. Body a band on vertex. Hd from dorsal to above D. Body slender elongate. Feet 1-8 very short and not much, slaty gray, greenish distal. 9, brownish last. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

1256

Leaf miner in Epilobium Kaslo BC June 21 1903
Eats a long linear winding mine right along
at the margin & leaf from near base out.
Round, short, hd flattened, brown pale at outer, cd
quadrate small from, orange yellow d., reddish lat.
fine clear visible lat. The feet brown, abd absent,
at least very short & without crochets. (m, 1)

1257

Mistaken for 1256 at first. Blotch miner in Epilobium
Gladstone like blotch, from i = brown to which
large reticulae when disturbed. Minus brown all
over. Feet all present (slide) Larva much about
in mine.

1258

Monumented on barberry Kaslo BC June 23 1903. In a
delicate elliptical web on the stem, jumps off by beating.
Hd long, elliptical, round, apex i = 2. Antennae. Shaded with
reddish, eyes black, spiracles white. Body moderate
tapering at the head, cylindrical, normal. Dorsal whitish
with large dull black tubercular spots. A vinous brown
shade along d. vane, a smoky black ed shade under
to cross i and ii weakly, i being distinctly dorsal to ii.
Between them & iii grey shaded, below iii whitish. iv &
v well separated, v small, vi moderate. Spiracles grey
small, black ringed. Shields unornamented. 2 a little
luteous dorsally, the 3rd and blacker on 2 & 3 and brown
into dots on web. edge of 2.

1 June by 20675 July 6 = 1259

B by 20489 with dorsal spots joined. July 6 = 1259

C by 21399 July 18 of small & late

Harvested July 23. White & pink 5, 7, 9, 11.

Aug 5 = 1259

Nov 16

at the back. Moderately
large - refined white &
with cherry

1259

1 egg by 20 Acronycta 19330, 19552, (Kodoloff?) June 22 1903
Near hemispherical with much flattened on sides
the sides, domed. Rets 3 to 4. Smooth, no rets,
dorsally above, forming an irregular ring around
microphyte which is shaped. D. 9 to 4.5 mm. Pale
bluish green. Hatched July 29 without egg changing a getting
spotted. Hd bilobed, smooth, projecting forward, eyes black
from brown. Body uniform, 12 a little enlarged, white,
unimaculate, hair white, spinulose, i-iii long, pin, iv
or shorter, weak. Hair all single and simple. 1st + 2nd a
thorax. No dorsal, tubercles concolorous. All pale and
translucent. D. warts concolorous elevated. Feet equal.
Larva 2, 3-6. July 29, 12 with dorsal tubercles d. tubercles. Later
purple brown spots appear small, round, only covering ii
on 2, 4, 5-14 smaller than 5, 8, 9 & 12. No shields contrasted
being concolorous with segs. Hair white except in spots.
Hatched July 5 Hd .6 after subcylindrical head before, whitish shaded with
brown streaks above & smooth whitish body and ch. flatish, with
large circular, concolorous. White and obscure black ed line along
d. Purple brown spots on 2, 4, 5, 8, 9 & 12 with slight ed space to 11.
And shown grey. Hair on legs one & several shorter from each joint
in the brown spots. Brown short hair on black with enlarged tip. Hair
permanence. Feet all pale, normal.
Hatched July 11 Hd .6 a little wider brown all over later as on 15, 8 green. All
white. Body cylindrical, moderate with brownish with fine long
and other short hair sparse, d. smooth blackish. Green, tubercles
a white ed band along the body. Purple brown on 2, 4, 5, 8, 9
and 12, that on 2 elevated above 1-11. Feet green. Larva 2
smaller, on 12 extremely a 1st arrow on 11.
Hatched July 15 Hd .4 high strongly bilobed, apex in face reticulae. With all
shaded with dark brown. White - later July 20 prominent, 12 on
larger d. sides. White round. Tubercles concolorous with smooth.
Larva 2, 3, 4-5, 7-9, 11-12 dark brown between a yellow ed line
with white 4-5 and 8-12. Hair with several long hair & few short ones.
Hatched July 20 Hd 2.1 Larva 1290 hatched 2.2 2.4. Side shaded by minute
black spicules, brown spots on opisthosoma and vi. Eyes black 5-6.
Hatched July 25 Hd 3.1 (= 1290) Head flattened erect, vertex a 2, like
purple brown uncolored with dark & green & green. Side whitish
black eyes long robust, concolorous, 4-7 high arched. 12 prominent
d. brown conical with i & ii on a granular platform. Hair small
reduced but dorsal ones prominent. Few haired hairs not
dominant, a few 2d on 2nd seg on leg. Hair, later d. purple
brown stripe with a 2, one i on 2, & hind to ii on 5 i on 6-7,
slightly edged with 2-12 including a green space 16-11 and
reddish oval 1st, yellow edged. Dark spots around spiracles
and above vi. A few whitish nearly dots on the sides. Feet green.

1260

Egg by ♀ *Dargida proxima* 19778 Kaslo BC June 22 1903
 1/3 of head from front. Ribs ± 40, diminishing irregularly
 as they go, mostly projecting at apex curved by ribs, the
 longitudinal lines at bottom & apices of ribs, forming
 rounded hexagonal cells which hit the sides of ribs.
 An irregularly sculptured area above the raised
 umbilical which has a row of 8 cells. D. 6 pale yellow
 hatched June 25 Hd. 1.0. Body brown black, shiny
 1st stout, 2 slightly enlarged, feet 7-8 short. Col. large,
 brownish. All anal. gray, whitish with stem fine
 dark granular, at. canal reddish. Tubercles each large,
 many, setae black with another tips, narrow, 10-11
 separate, one subp. is also center of feet. 4 stout sharp
 setae at anus, 1 above & 2 below.
 Head 3.1. Hd. 5.5, round lobed shiny anal. tubercles, shield
 dotted red with blackish except on in center and line
 2.5. Body roundish tapered behind 12 not enlarged
 and practically = the feet. Head. Blackish olivaceous green.
 1st a lat. narrow pale line, subp. broad & whitish.
 2nd dorsal. Shield concolorous. Tubercles & setae obsolete
 with greenish pale green line olivaceous.
 Hd. 7.1. Hd. 1.0. round, green shield spotted with angular gray spots
 of round small behind 12 small enlarged. Velvety dark
 olivaceous, with narrow pale green line, & dotted, 1st 3 lat
 line closely approximated, the middle one diffuse, probably broader
 greenish white. Feet pale. Spinous white, no shield, line
 2.5. 7.2 in. visible.
 Hd. 11.1. Hd. 1.0. round, green shield spotted with angular gray spots
 of round small behind 12 small enlarged. Velvety black
 head in small round shade. Dorsal olivaceous velvety black
 pale line of small broadened by 4 light line, the upper 1 line
 narrow, a dark and also subp. broad white. Olivaceous green
 dorsal, 1 diffuse, also 2 dark olivaceous, outer light. Feet dotted
 Hd. 15.1. Hd. 2.6. Head red. Head blackish & overcast
 with leaden body more from light to dark, broad velvety
 olivaceous black, 1st a lat. broad light, straight, rather broad
 light edged & darker filled, subp. about the same, a broad
 light. 5th subventral black, also, greenish below. Feet
 pale, the dorsal. Spinous white. Venter green, no shield.
 Light from above and d. space & infra shy and dark, rest all greenish.
 Hd. 16.1. Hd. 3.5. 2nd dorsal. a powdery white d. line (see above)
 d. line white, dark dark edge, a large line 1st, 11 dorsal.
 1st line white

1261

Egg by ♀ *Zosteropoda hirtipes* 19673 Kaslo BC June 23 1903.
 Low ellipsoidal, the base flattened, ribs ± 36 broad base
 indistinct, covered by ribs, the apical one on the ribs
 forming regular zigzag, no line is hollow and the
 cross striae obsolete or sides distinct toward vertex
 where there is a coarse rounded hexagonal reticulation.
 Irregular & confused. Microscopical cells of 8 cells, slightly raised
 1st 1st pale yellow with reddish gray spot
 Hatched July 6 Hd. 3.3 round slightly lobed. Shield white with 3
 vertical rows of brown dots on each side. 1st ovalish, narrow,
 12 slightly enlarged, feet 17 small, whitish, tubercles roundish
 brown, shield concolorous with body, no marks. Feet pale later
 rather long, sharp, normal, 12-11 & separate. 1st row 1st & 2
 at white base of green stem July 15
 Hd. 5.5. Hd. 5.5. Body roundish, brown apex 2 whitish a thin line from
 eye well to center & edging a narrow 1 & 2 row of dots approx. in the
 latter, scale black. Body slender, 5-7 thicker & tapered a little.
 12 small enlarged 10-11, narrow. Feet 17 small. Whitish, green
 from front, d. lat. broad lat. broad whitish line whitish, pale
 dotted & brown lat. lat. & shy. Tubercles small dark feet pale
 July 10 Hd. 8.8 elongate, narrow to 12, narrow, head flat, white with
 row of purple brown dots, edging center, on face of lat. and on d. lat.
 a dark edge, pale dark. 1st slender elongate, shining, 1st dorsal.
 1st 2 very small, 8 large, setae of 1st dorsal broad, 1st dorsal.
 Whitish shaded with olivaceous, d. line white, dark thin edge, 1 large
 thin spot, 11 small, 1st line white, straight, base of lat. line and
 dark line faded. 1st line white, shining on 1st dorsal, feet con-
 cealed 30, 1 brownish filled. Feet pale with spots on the tubercles
 Hd. 1.1 collected 1 small Aug 1. Hd. 1.1. Head white with ventral
 dark line 2 a lat. 11 & narrow, on d. side broad & greenish, a
 greenish line eye from black. Body large, 1st dorsal, 1st dorsal 2.5-6
 tapered dark wing, 12 again a 1st dorsal enlarged. Glossy whitish
 line a dorsal white, dorsal, body translucent, dotted by
 grayish cloudings, sides darker with 1 whitish lat. line
 shy white, marked by lat. line gray. Feet pale. 1st dorsal 1st dorsal
 shield Aug 11 Hd. 1.5 round, shiny white d. before. Head slender &
 flattened, anal feet, 1st dorsal blackish clouding. Flaring
 line d. 1st yellowish brown rounded before narrow dorsal & a
 d. line & small black. Side dark shaded in broad diffuse
 lighter anal banding. Subp. broad white, granular, d. a
 brown filling, or area mottled in brown, 1. d. feet blackish
 1st ad pale. Setae narrow.
 Hd. Aug 24 Hd. 2.1 head flat, apex 2, stoma yellow, tubercles brown
 red. Anal tubercles small, no large separated. 1st dorsal, d. line
 sides projecting, narrow shaded black edge. Feet =. No shield.
 Stoma brown, dotted with black, without distinct lines the black
 dots are aggregated along the stoma d. 1st line and on
 tubercles, 1st on 11-12 when a contracted shade is present.
 Side shaded in dark brown, granular, including the
 obsolete lat. line. 5th all red brown mottled, d. edge clear
 yellowish white. 5th dark from dotted on upper half redish.
 Ribs are on ventral. Feet pale with black tubercles. D. lat.
 side white. Setae fine, rather short.
 1st large enough to show

1262

Nicomedeia sp? on Humbleberry Kaslo BC June 23 1903
 Made a nest on top of leaf
 Desc July 31 Hd large round black, dull black, pilose, no spots
 Neck small with large shield, black. Feet 2 & 3 black, 4 green
 Body white, capitate before & behind, palps dull greenish
 Antennae 10-segmented. Setae granular whitish. Venter brownish

1263

Choreutis in (magnificum contrasting) Kaslo BC
 June 23 1903. In a soft web on back of top of
 leaf, solitary. Hd large elliptical, mouth pointed
 Antennae 10-segmented, head flat, pale brown, small black
 mouth brown. Body cylindrical tapering at ends, slender
 segs coarsely annulate, feet normal, slender. Pale
 green, a broad d. yellowish ill defined shade, tuberc
 small black distinct setae pale rather long.
 1 & 2 elytr approx. 1/2 smaller: a little ventral
 in discolorous shades. Feet all pale
 Spin June 23 from which cocoon
 Ant July 12 Cnt 21107 *Choreutis leucobasis* Fern

1264

Black miner in aspen. small Kaslo BC June 23, 1903.
 Ant July 29 1903 Cnt 23604

Utricularia populiella Ch

1265

Colletid on soapberry Kaslo BC June
 Yarn dark robust cylindrical with large tho.
 feet and scutella abd over on 7-9 segs.
 Pale orange. plates & broke shield of 3 black.
 (slide)

1266

Tortricid webbing heads of Agave Kaslo June 24
 Hd brown, body greenish, grayish & dark brown.
 Juven. 8 glands yellowish (inflated)
 Ant Aug 6 Cnt 27189
Asteris brachyura

1267

Leaf miner in willow much like the common
 Ceanothus one. Found from June 24.
 Ant July 8 Cnt 20950

1268

Perhaps = 1238 but on the smooth thorny quince
 and bent heavily black spotted, cost & 2 cost
 black patches and a set dusky shade. (inflated)
 Spin June 24 from quince white in a cloud of
 delicate silk with drops in it
 Ant July 19 Cnt 21599

Zelleria gracillanella Busck

1271

Egg by ♀ 19591 Seom. Maslova June 26 1903. Elliptical strongly flattened conical, one end smaller and depressed, both rounded. Reticular, rounded & broad, elongate hexagonal, low rounded base, thin flat between small feet, granular & opaque. Pale yellow. $9 \times 5 \times 3$ mm. (Sterile) Hatched by ♀♀ 20608-9 July 7. Hatched July 13. Hd. rounded full pale brown shining. Thorax marked on sides and a dark line on the surface edged with light. Body moderate and elongate, fat normal, pale brown, a broad dark band of band, a similar line distinct & v. fine, dilated on last 10 segs. Feet pale legs irregularly annulate. Tubercles minute, brown rather numerous, fine, minute enlarged at tip. (First 10 segments, curved, without tubercles, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, 31st, 32nd, 33rd, 34th, 35th, 36th, 37th, 38th, 39th, 40th, 41st, 42nd, 43rd, 44th, 45th, 46th, 47th, 48th, 49th, 50th, 51st, 52nd, 53rd, 54th, 55th, 56th, 57th, 58th, 59th, 60th, 61st, 62nd, 63rd, 64th, 65th, 66th, 67th, 68th, 69th, 70th, 71st, 72nd, 73rd, 74th, 75th, 76th, 77th, 78th, 79th, 80th, 81st, 82nd, 83rd, 84th, 85th, 86th, 87th, 88th, 89th, 90th, 91st, 92nd, 93rd, 94th, 95th, 96th, 97th, 98th, 99th, 100th, 101st, 102nd, 103rd, 104th, 105th, 106th, 107th, 108th, 109th, 110th, 111th, 112th, 113th, 114th, 115th, 116th, 117th, 118th, 119th, 120th, 121st, 122nd, 123rd, 124th, 125th, 126th, 127th, 128th, 129th, 130th, 131st, 132nd, 133rd, 134th, 135th, 136th, 137th, 138th, 139th, 140th, 141st, 142nd, 143rd, 144th, 145th, 146th, 147th, 148th, 149th, 150th, 151st, 152nd, 153rd, 154th, 155th, 156th, 157th, 158th, 159th, 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1275 *St. polyommata*

Eggs by ♀ Scrim. 20357 Kaslo BC June 27 1903. Elliptical, compressed, one end very strongly depressed, ends rounded, the base very strongly flattened. Cell areas depressed, feet hollowed, the reticulation low raised corrugated or wrinkled transversely, pentagonal to hexagonal pale yellow. .8 x .6 x .5 (more eggs III 4 ♀♀ 20499 & 20574)
 Hatched July 8 Hd. rounded, brown black, shining black, dark on the sides, 3 mm. Body short, stout, legs weakly curved, feet weakly curved, yellowish white with lines of fine blackish dots along the sides. Indistinct or distinct sd, lat & sv. rows. 5 short, anal by small, pharynx & the feet. Tubercles minute. Setae short, blade-like shaped. Skin wrinkled granular, the dots of the sd define dark bands underlying granules.
 Pup. July 22 Hd. .55 round dark brown, darker on the sides. Thorax weakly corrugated flattened, dorsal pale brown with a dark line. Side dark brown; sv again faint pale like dorsal, venter also pale with faint darker line, no 1. under v. T & S clean to black (Hatched caterpillar for several days and seems to be hibernating July 3)

St. polyommata (H3)

more by ♀ 22370 July 24

M. clivacea 1 *petita*

70

1276

2 eggs by ♀ *Mamestra* 20209 Kaslo BC June 28 1903. 3/4 Almond like, flat after roughened by ends of ribs, ± 30 ribs distinct by broad bases, nearly round, with obsolete very strong. Cells compressed, rounded, slightly angled, rounded. Pale yellow with dull red vertical spots and ring D. 75 micron.
 Hatched July 7 Hd. slightly bilobed, shining black. Body round (2 not enlarged) feet stout, whitish, long, oar, feet tubercled. Plate black, tubercled rather long, brown black. Cyl. shining siliceous long, buttons tipped; skin finely dark granular.
 Pup. July 22 Hd. .5 round, dull black. Body rounded a little flattened (2 slightly enlarged d. dark brown & red line pale, dorsal darker edged. base of lat. slightly brown, no pale, dorsal. 7. rows black elevated. Setae long, granular-tipped. Setae at base curving upwards & forward. Thorax feet black.
 Pup. July 23 Hd. .55 dark brown, outer black & pale brown. Body round, a little squaring flattened. 12 slightly angulated granular pointed, dark, the granular. Sd begun pale ochraceous, in dorsal a 5 shaped whitish by dorsal band of dark, edged below by a straight black band. Side nearly uniform dark sv again lighter below fold. 7 small black setae coarse stiff, tips bristled black. Setae granular.
 July 24 Hd. 1.3 small round dark brown, a black v over d, on pale streak on venter. Body round, flattened a little. Setae granular setae alternately stiff with enlarged tips. S. of pale wood very with a brown black & irregular. Sd low broad, whitish with central dark line and blackish upper border. Below black with a lat. around pale line and a broad & distinct pale st. Substly broad broad, round whitish, brown dotted, a small black sv clean brown. Feet pale T black, slightly elevated.
 Pup. Aug 7 Hd. 2.0 ± 2.05 all as before but brighten, with dull during stage. Setae white, slightly black, subapical. Hd. pale brown, dull, subopaque, with black net & bands. Evidently not. Look as if 1273

1282

Eggs of *Toxocampa victorina* 20002, June 30 1903, Kaslo BC.
 Perfectly spherical, rolling around like shot, very slightly
 adherent as laid but not enough to stick to a leaf.
 About 26 perfect cells diminishing toward the end, each
 celled. Each cell with broad concave space between
 outer stratum. Cells from 11, forming \square cells 4
 times as wide as long. By the ventral cell. D. 9 Sordid pearl
 Hatched July 16. Hd rounded, black, white, & narrow curved
 marked. Thorax brown & face of each lobe, mouth brown. Body long
 slender, without hump, sordid white without markings. Feet 7 &
 very short. Shaded concolorous. T small brown. S moderate pointed
 (not hatched from Jan but 2 of it, had not eaten) (refused food) (at Kaslo 1903)
 Eat only a little & no more food. Will hibernate in I 7 (Aug 3)

on 3rd black, 1st white ventral border, by curved band before
 1st on eye black. Tubercles very long, round, in front only.
 Black approx 1 in = common spot. Tail equal
 to plate black. Skin opening dark apical granular

1283

Selected? crawling head of *Trachobalanus* Kaslo BC
 July 1 1903. Hd slender, long round tubercle, the feet &
 plate black. Body sordid grey, minutely black spinulose
 with open yellowish patches, d. small dusky.
 1st cell separate, ii a + ii, iv + v. Spinal black.
 No. 2 hatched July 2. 2nd 8 white, yellow dorsal 20. Tubercle, black
 d. small & ventral sordid black, and spot from 9 2. 1st black
 turned into 2 spots 24.

1284

Shed on pine by Mr. Currie July 3 1903. Body yellow
 green with a broad, contrasted yellow white 1st
 & subalby band. Cdh Φ shaped, brown. 2nd band
 all over dorsal, brown. July 5 larva red & shrunk to 1

1285

Tubercle in young tape of alder webbing up the
 young leaves, Kaslo, July 3 1903
 Ant tape 12 1904, Cat. no. 39356

1286

Eggs of *Schizura concinna* on an apple tree, found
 by Mr. Currie. Hatched July 3 1903, Kaslo BC.
 (slide) (normal; but then out July 20)

More by 20928 July 12. 2/3 center dark green edge pale green.
 132 21122 July 16. Same High Aug 19 shrunken, dirty

1287

Eggs by ♀ *Grammia* 20510 Kaslo BC July 2 1903. 2/3 spherical
 heavily rounded. Dorsal in a large, brown, loose broad.
 Rts about 40 low, broad, diminishing to water level
 by the sharp vertical net which are like the can
 stage, with distinct forming regular cells, boundary
 down in the hollow. Greenish white. D.I. did not change
 Hatched July 12 Hd bilobed round pale brown with dusky black
 spots at the tubercles. Body moderate, rounded 12 enlarged
 feet 7-8 smaller than the rest but not greatly so.
 Lateral without marks, col very weak, partly dusky.
 Tubercles large brownish black, irregular edged, numerous, 1st 1/2
 feet, 2-4 separate, 11 largest. Leg dusky, joint dusky
 and July 17 Hd 8 bilobed shiny pale brown with red black spots
 on the tubercles. Body moderate, 5-7 enlarged, 12 enlarged
 whitish green, feet whitish, d. 1-3rd line faint, white straight,
 4th 1/2 slightly brown filled, 5th broad (just over 1/2) very broad, soft
 white shining on 11 and 12, feet pale. Tubercles round black
 2-4 not much. Col somewhat but without green tint to 12th
 black 12th feet dusky without.
 and July 22 Hd 1.1 shiny reddish brown, red darker on vertex. Head
 equal, 12 a little enlarged. 5-7 reddish olivaceous green, dusky
 1-4 very pale col. Gastera whitish, 11 1/2 3rd line darker, venous
 12 bilobed, 1st dotted, bright white, 2nd and 3rd
 brown, olivaceous mottled. Subst. with white edges, green
 filled. 5-7 feet pale. Tubercles round, black dotted, no
 shields. Setae moderate pale. Feet 7 rather small.
 and July 23 Hd 1.7 brown, dark brown red, joined into small vertical bands
 Body round, 12 strongly enlarged, feet 1-5. Brown grey black dotted set
 on. Tubercles ground col is a d. 5-7 band and 12, 3 line white
 and into 2 say tubercles the first with a small macula enlarged
 round, 12 a row of fine dots. The space above is between d. 5-7
 highly white with white dotted edges, round all between feet
 5-7 between white black dotted. 11-12 yellow feet pale, with dark
 tubercles on spots. No shields. 1-5 black, setae fine brownish.
 (seen in stream to high water Aug 2) (shrunken & High. Aug 12.)
 and Aug 12 Hd 2.1 same Sept 15 Hd 2.5-6 and under water after 1-2
 shrunken and brown with dark lines and 1-2 tubercles, the last
 important part in above a. Body under 12 slightly enlarged
 head head brown, ground whitish brown faint greenish in tubercles.
 a brown diffuse hairy round d. line which is composed of
 2 white dots just on 11 and 12, a faint dusky shadow, 2 lines all
 a faint line all 11. 12 feet show ground color sides with brown
 11-12 line 11-12 whitish 11-12 line in black. Line also shows the
 11-12 with narrow pale band and a trace of white at its edge
 the feet show brown. Shins, 1-4 feet shrunken and body
 1-5 black.

Grammia trilineata St

M. loca St

133

1288

Eggs by ♀ *Hadrona* 20505-06 al., Kaslo BC, July 3, 1903. 2/3 spherical
 base round, not flat, easily detached and rolling. Rts
 about 40, rather sharp narrow and straight, diminishing
 as ground when they become low and less distinct
 Rts scarce in directed, col. Glass clear, setae broad
 smooth, slightly red, whitish slightly shining with
 crown of small pyramidal cells. Tubercles d. 7 mm
 1-4 dark and all the rest
 Hatched July 15-16 Hd round pale brown eye black. Head round,
 round 12 slightly enlarged. 1-4 pale brown 1-4 whitish, head
 dusky, 1-4 granular. Tubercles small brown, setae long
 pale with enlarged tips. (Seen to pale and leaving)
 July 22 Hd 1.4 1-4 brown black, pale brown water darker, head round,
 12 scarcely enlarged, whitish dotted, dark from al. can't mean
 dotted. 2-4 d. line faint whitish. Tubercles round, black 1-4 faint
 1-4 moderate capitate. Feet pale, 7 a little moderate.
 July 30 Hd 1.7 now dull dark brown, dusky small capitate. Body round
 flattened, =, ochraceous, a row of wide d. 5-7 light creamy, a row
 of very clean pale d. line. Setae mottled brown blackish
 d. 5-7 ochraceous, shields moderate. 1-4 small black, 5-7 pale sub-
 capitate alternating ground & blackened. Feet pale 7 small
 and Aug 13-14 Hd 1.0 round, pale brown with black dorsal net
 1-4 black. Body round, flattened, =, slightly. Coln as before
 Aug 30 Hd still 1.0, 1-4 5-7 do.

Sept 18

1289

Egg by 9 June. 20630, Kopsale, Kaslo BC July 4 1903.
 Egg oval, black, one diameter less, evenly rounded, the ends
 nearly alike, no depression nor truncation. Laid in
 small groups, erect on the antennae of the larva,
 strongly adherent. Rets regular, hexagonal, small,
 narrow, obscure, not raised, on the large sides there
 is an indication of ribbing so that the Rets are more
 long, triangular, pleated. Ends opposite, yellow, 8 x 6 x 5
 fairly red. Hatched July 15. 1st round blotched, pale brown, minute
 darker brown, short, rather round, 20 feet wide and a little less.
 Pale yellowish, a broad d. & narrow brownish ed. dark red line
 from 3rd red spots on 5-9. Line not quite so clearly reaching
 end. Overcast broken by annulet fold. C. large but
 concolorous. Tubercles small, minute. Setae distinct, pale
 rudimentary, scarcely distinguishable at tip. (Reticulated about 100 feet at
 10-13 and 14-15.)
 2nd July 21. Hd. 6 bilobed, luteous, immaculate, body moderate, pale
 green, d. broad, 5d narrow, lat. clavate, a little yellowish, 1st line
 brown, the latter 3 obscure, 4 of large clouded patches on 5-9.
 2nd July 22. Hd. 9 round, bilobed, dull luteous, distinct brown dots below eye
 and front on a vertical suture. Body moderate, uniform, sage yellowish
 concolorous, yellow luteous, d. line obscure, dark brown, broad
 with light brown, ed. line brown, dark brown from the latter joined
 July, say spots on 5-9, 10-13, 14-15, 16-17, 18-19, 20-21, 22-23, 24-25, 26-27, 28-29, 30-31, 32-33, 34-35, 36-37, 38-39, 40-41, 42-43, 44-45, 46-47, 48-49, 50-51, 52-53, 54-55, 56-57, 58-59, 60-61, 62-63, 64-65, 66-67, 68-69, 70-71, 72-73, 74-75, 76-77, 78-79, 80-81, 82-83, 84-85, 86-87, 88-89, 90-91, 92-93, 94-95, 96-97, 98-99, 100-101, 102-103, 104-105, 106-107, 108-109, 110-111, 112-113, 114-115, 116-117, 118-119, 120-121, 122-123, 124-125, 126-127, 128-129, 130-131, 132-133, 134-135, 136-137, 138-139, 140-141, 142-143, 144-145, 146-147, 148-149, 150-151, 152-153, 154-155, 156-157, 158-159, 160-161, 162-163, 164-165, 166-167, 168-169, 170-171, 172-173, 174-175, 176-177, 178-179, 180-181, 182-183, 184-185, 186-187, 188-189, 190-191, 192-193, 194-195, 196-197, 198-199, 200-201, 202-203, 204-205, 206-207, 208-209, 210-211, 212-213, 214-215, 216-217, 218-219, 220-221, 222-223, 224-225, 226-227, 228-229, 230-231, 232-233, 234-235, 236-237, 238-239, 240-241, 242-243, 244-245, 246-247, 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1838-1839, 1840-1841, 1842-1843, 1844-1845, 1846-1847, 1848-1849, 1850-1851, 1852-1853, 1854-1855, 1856-1857, 1858-1859, 1860-1861, 1862-1863, 1864-1865, 1866-1867, 1868-1869, 1870-1871, 1872-1873, 1874-1875, 1876-1877, 1878-1879, 1880-1881, 1882-1883, 1884-1885, 1886-1887, 1888-1889, 1890-1891, 1892-1893, 1894-1895, 1896-1897, 1898-1899, 1900-1901, 1902-1903, 1904-1905, 1906-1907, 1908-1909, 1910-1911, 1912-1913, 1914-1915, 1916-1917, 1918-1919, 1920-1921, 1922-1923, 1924-1925, 1926-1927, 1928-1929, 1930-1931, 1932-1933, 1934-1935, 1936-1937, 1938-1939, 1940-1941, 1942-1943, 1944-1945, 1946-1947, 1948-1949, 1950-1951, 1952-1953, 1954-1955, 1956-1957, 1958-1959, 1960-1961, 1962-1963, 1964-1965, 1966-1967, 1968-1969, 1970-1971, 1972-1973, 1974-1975, 1976-1977, 1978-1979, 1980-1981, 1982-1983, 1984-1985, 1986-1987, 1988-1989, 1990-1991, 1992-1993, 1994-1995, 1996-1997, 1998-1999, 2000-2001, 2002-2003, 2004-2005, 2006-2007, 2008-2009, 2010-2011, 2012-2013, 2014-2015, 2016-2017, 2018-2019, 2020-2021, 2022-2023, 2024-2025, 2026-2027, 2028-2029, 2030-2031, 2032-2033, 2034-2035, 2036-2037, 2038-2039, 2040-2041, 2042-2043, 2044-2045, 2046-2047, 2048-2049, 2050-2051, 2052-2053, 2054-2055, 2056-2057, 2058-2059, 2060-2061, 2062-2063, 2064-2065, 2066-2067, 2068-2069, 2070-2071, 2072-2073, 2074-2075, 2076-2077, 2078-2079, 2080-2081, 2082-2083, 2084-2085, 2086-2087, 2088-2089, 2090-2091, 2092-2093, 2094-2095, 2096-2097, 2098-2099, 2100-2101, 2102-2103, 2104-2105, 2106-2107, 2108-2109, 2110-2111, 2112-2113, 2114-2115, 2116-2117, 2118-2119, 2120-2121, 2122-2123, 2124-2125, 2126-2127, 2128-2129, 2130-2131, 2132-2133, 2134-2135, 2136-2137, 2138-2139, 2140-2141, 2142-2143, 2144-2145, 2146-2147, 2148-2149, 2150-2151, 2152-2153, 2154-2155, 2156-2157, 2158-2159, 2160-2161, 2162-2163, 2164-2165, 2166-2167, 2168-2169, 2170-2171, 2172-2173, 2174-2175, 2176-2177, 2178-2179, 2180-2181, 2182-2183, 2184-2185, 2186-2187, 2188-2189, 2190-2191, 2192-2193, 2194-2195, 2196-2197, 2198-2199, 2200-2201, 2202-2203, 2204-2205, 2206-2207, 2208-2209, 2210-2211, 2212-2213, 2214-2215, 2216-2217, 2218-2219, 2220-2221, 2222-2223, 2224-2225, 2226-2227, 2228-2229, 2230-2231, 2232-2233, 2234-2235, 2236-2237, 2238-2239, 2240-2241, 2242-2243, 2244-2245, 2246-2247, 2248-2249, 2250-2251, 2252-2253, 2254-2255, 2256-2257, 2258-2259, 2260-2261, 2262-2263, 2264-2265, 2266-2267, 2268-2269, 2270-2271, 2272-2273, 2274-2275, 2276-2277, 2278-2279, 2280-2281, 2282-2283, 2284-2285, 2286-2287, 2288-2289, 2290-2291, 2292-2293, 2294-2295, 2296-2297, 2298-2299, 2300-2301, 2302-2303, 2304-2305, 2306-2307, 2308-2309, 2310-2311, 2312-2313, 2314-2315, 2316-2317, 2318-2319, 2320-2321, 2322-2323, 2324-2325, 2326-

1294

1 Egg by 2 noctuid 20511 Kaslo BC July 5 1903. $\frac{2}{3}$ spheroidal, apically flattened, base flat, ribs forming bumps at vertex. Rib ± 35 diminishing above, calypted and separated by the ventral ribs which unite the equally distinct cross striae from nearly square cells, close the apical junctions suggesting a mass of soap bubbles. Vertex reticulate for 2 rows of cells with a small pyriform circle at micropyle. Highest yellowish white. S. 9

Mamestra ligata

44
1295

at fig wood (noctuid)

egg by 2 noctuid 20601 Kaslo BC July 5 1903. Spheroidal, base narrowly flat. Ribs ± 40 diminishing by alternation at upper $\frac{1}{3}$, crowded & separated by the ventral ribs, which with the cross striae form rows of cells, rather faint, and raised. The ribs bend at the edge of vertex and become smaller but run right to the micropyle. Micropyle with circle of pyriform cells. Pale yellow. S. 8 mm. Single hatched July 15. Hd. round, black, shining black. C. black. Body robust, short. 12 not enlarged, feet of 7-8 short. Tubercles round black, normal, elevated, setae long, pale at base and with enlarged granular ends. Dorsal whitish, narrow band. 2nd July 21 Hd. 5 mm. Black. Setae blackish, setae 10 pale, C. black as also anal sp. Tubercles & setae black. Body robust, short 12 not enlarged, pale green and white, 11 pale, all feet pale, a shaggy pale hair, a little narrower at ends. 3rd July 24 Hd. 6 mm. Setae whitish, apex of lobes brownish, tubercles dark. Body robust, a little flattened, pale, shaded with brown leaving d. sd. lat. & broad stig. bands of green color brown edged. C. brownish, tubercles to pale, T. rather large blackish. Setae elevated, setae pale, micropyle whitish. 4th July 27 Hd. 7 mm. Setae whitish, apex of lobes brownish, tubercles dark. Body robust, a little flattened, pale, shaded with brown leaving d. sd. lat. & broad stig. bands of green color brown edged. C. brownish, tubercles to pale, T. rather large blackish. Setae elevated, setae pale, micropyle whitish. 5th July 31 Hd. 1.1 mm. Setae whitish, apex of lobes brownish, tubercles dark. Body robust, a little flattened, pale, shaded with brown leaving d. sd. lat. & broad stig. bands of green color brown edged. C. brownish, tubercles to pale, T. rather large blackish. Setae elevated, setae pale, micropyle whitish. 6th Aug 7 Hd. 1.8 mm. Setae whitish, apex of lobes brownish, tubercles dark. Body robust, a little flattened, pale, shaded with brown leaving d. sd. lat. & broad stig. bands of green color brown edged. C. brownish, tubercles to pale, T. rather large blackish. Setae elevated, setae pale, micropyle whitish. 7th Aug 14 Hd. 2.5 mm. Setae whitish, apex of lobes brownish, tubercles dark. Body robust, a little flattened, pale, shaded with brown leaving d. sd. lat. & broad stig. bands of green color brown edged. C. brownish, tubercles to pale, T. rather large blackish. Setae elevated, setae pale, micropyle whitish. (Save one to the collector to raise Aug 15 - 5th blown)

Ptilia auriferaria

1296

Eggs by 2 Noctuid 20600. Kales RC July 5 1903. Laid single
 singly $\frac{1}{2}$ a sphere, base broadly flat & strongly adherent
 ribs \pm 8, straight narrow, parallel, running round a minute
 before decreasing in pressure, curved & vertical net, but
 without any in the hollows. The cells round quadrangle
 having the ribs & little. Venter reticulate, minutely
 striate, raised pale slightly greenish yellow. D 1 mm
 later washed with red one round & venter.
 Hatched July 13 Hd round shining pale brown with brown spots
 at the tubercles, eye black mouth brown, body moderate, 12 enlarged
 feet 9-10 small slender. Tubercles large round black and
 elevated. Shield concolorous with black tubercle. Feet pale.
 Substrate, skin minutely spaced dark granular.
 July 14 Hd 7 round shiny pale green. Body slender, rather elongate
 feet 7-8 small, 12 slightly enlarged. Translucent pale green, no marks
 on shield, very faint indicated d. & s. pale lines. Tubercle with
 black, moderate, rather steep, black.
 July 15 Hd 1.05 shiny green. Body black. Body rather slender.
 feet 7-8 small, 12 enlarged. D. soft green dark d, pale s.v.
 D. & s. line narrow, white. Body slender white, edges dark
 green above. Feet green, no shields. T. white with black hair dot
 July 16 Hd 1.6 round, apex in 2, shiny green, tubercles lined.
 Body cylindrical, 12 not enlarged. Feet = Translucent green, dotted
 with white, incisions folded yellowish. D. line narrow, sd
 more distinct, broken. Dotted white edged by a space from which
 the white dots are absent. Fly line broad, white in its d.
 edge, diffuse & fading below, covering 0 except d & 2 & 12. Feet
 yellow 7 white with black hair dot. Setae minute.
 July 17 Hd 2.2 greenish brown shiny faint brown above rounded
 & greenish ground. Setae pale brown to black by the black line & whitish
 dots on pale ground, d line black white, dark edged, dark spot
 on i, sd fine dotted, joining dark edge, stop narrow white,
 below 0 on 2 & 12. S.v. pale white white dots. Feet pale
 & white with black edge. The feet = little purple. T. white
 with dark hair dot, obscure. S. short & fine.
 July 18 Hd 3.1 rounded, wider than high shiny greenish brown
 net in pale brown the ground shiny as rounded dots. Body
 moderate, 12 slightly enlarged, feet =, no shields. Head washed
 with brown and whitish dotted on a pale green ground to
 tubercles s.v. pale green white dotted, diffuse dark green
 brown, rather green. D. line whitish, dark edged the edges
 quercus in incisions. i & ii with brown spots. Sd line indistinct
 with brown red. above. Fly line narrow white, vacuolar
 below 0 on 12 Feet green like s.v. T. small whitish. Setae
 small

Hadrona veranta Say

1297

Eggs by 2 Noctuid 20617 Kales RC, July 5 1903. Laid
 in a large patch not touching, $\frac{1}{3}$ of level the base
 roundedly flattened. Ribs \pm 8/10 fine, angularly
 waved, decreasing irregularly toward venter; and
 vertical nets a hollow cross shape fine, evenly
 obsolete. Venter irregularly ret. from end of ribs to
 slight raised micropyle. Pale yellow D. 83 was
 later washed redolent all on upper part.
 Hatched July 12 Hd round tubercle, pale brown, slight brown
 spot at the tubercles and rather short. Body moderate
 normal, 12 a little enlarged. Shields uncontracted. Whitish
 tubercles moderate brown normal, 10, 14 fly feet, 116 large
 feet 7-8 smaller. Skin uncontracted dotted micropyle, subcuti-
 neous large rounded vacuolar Setae black pointed.
 July 13 Hd 8 round black faintly dotted brown dotted greenish & black
 a hole above and d. Body moderate green, shining shaded brown
 d. sd, lat & broad the black pale. Shield concolorous tubercles small
 round black Feet pale 7 small, 12 a little enlarged.
 July 14 Hd 1.1 green pale a tubercle blackish. Body dark
 brown green, D. sd line narrow dark edged, lat narrow
 above sd broad pale. S.v. olivaceous. Feet pale. T. 5 black
 July 15 Hd 1.9-2.1 (brown form) green faint darker net. Body un-
 rather slender, 12 enlarged. d, in a line brown, apparently
 large & marked. Green d. sd. broad fly line white, dark green
 edge, throwing a sea of large green oblique sd and - d. feet
 forming a bar on 12. 1 side dark variable, s.v. line s.v. fly
 large rounder space except on 12. Feet pale. T. white showing
 a face edging d & v suture. Body brown net in black brown
 marked d & v suture from oblique & broken shades brown
 light brown among interrupted light brown field T. white but
 no other white dots. No shields. Feet =
 July 16 Hd 2.3 brown net in darker & thick distinct vertical bands.
 Top narrow, = 12 a little enlarged. Light olivaceous brown,
 with sd black shaded oblique. Under 12 on 12 similar in this
 d line black broad pale sd indistinct & dark edged, brown
 outer black net, light not shaded. Venter broad yellowish
 with a greenish dark edge above, s.v. brown, T. in white. Venter
 clear pale small holes. Feet pale. Sd darkened, tubercles

Marimista muscada Linn

1298

Eggs by *C. cyrenatophoroides* (no black band) 20495 & 20587-9
Kaslo B.C. July 5-1903. Laid on the top of two
nervations of Birch leaves singly or in pairs as
many as 5. adhaerent by flat sides in a column.
Elliptical, compressed above, below, tapered towards
the anterior end, rounded, almost 18 vertical
ridges, sharp, upright, running to the micropyle and
compressed in a small area at the other end. Cilia
shorter than 11, the cells about 4 times as wide as long.
Pale yellow, turning red. $8 \times 5 \times 4$ mm.

Hatched July 13 1st on broad of leaf hd & tail up. all brown (slide)
Stage July 18 Hd 5.6 body 12 humped and feet up, brown mottled
distributed in pale.

Stage July 24 Hd 1.1, 3 humped, sparse distribution on 3rd-4 & 6 on 1st
abrupt pale line d. - sd joined & ventrad. 12 clumped.

Aug 5- light brown hd 2.3. Same with light white spots on
thorax on 5-7, smaller spots. Hides in fold of leaf inst
a slight hump.

Aug 12 large hts 3.8

most rapid

1299

Eggs by *C. expultrix* (with black band) 20595, Kaslo B.C.
July 5-1903. Elliptical, compressed, appen thicker and
rounder than 1298, tapering only a little. Ribs 14, fewer
and further apart than 1298, the cross striae fewer,
then cells about 3 times as wide as long (this last very
marked) Pale yellow. $7 \times 5 \times 4$ mm. Turned red
Hatched July 13 like 1298, 2 well collared (see slide)

Stage July 19 Hd 5.5 round humped erect dark brown dark dotted
Body dark velvety brown, 3 humped & with a 2d white dot
(2 enlarged), anal feet elevated 2-6 velvety, on 12 clumped
pale on dorsum, d. line dark, pale edged, sd so, faint.
a white dash on each & anal seg, pale edged, sd so, faint.

Stage July 24 Hd 1.1 light brown humped erect, dark dotted dark brown
Body with 3 enlarged d, 12 slightly up, anal feet slightly up. Dark
velvety brown feet pale, anal feet & third & fourth in dorsal white.
A yellow white patch on 3rd-4 & 6 on sides 5-13 with oblique
sd line d. part - sd ant. defining narrow dark d. & sd
line of ground. Tail pale, reddish. Tubercles dark.

Stage July 30 Hd 1.6 whitish humped dark brown erect & stretch
on 1st. 3-4 enlarged, 12 enlarged, anal feet up. Dark brown, a
light patch on 3rd & 4th segs by line running to light on segs
2 dark line defined 3 pale denticles. Anal feet edged with
light dots. Feet pale except anal. (red dots)

Stage Aug 5 Hd 2.4 Same with a white line up on 4.
Aug 15 Hts 3.5 etc Same and like 1298.

most exp

1300

Acronycta on willow, mature: July 6 1903. Hd 3.5 bilobed, shiny brown black, shagreened. Body velvety black on segs, more lustrous posterior, venter covered, well elevated, subapical, bright orange ochraceous. Hair brown color, stiff, erect, dorsal ones broadly black tipped. Ant. edg. of 2 also orange. Nostril larger than ii, iv minute. Soma lat. hair large but of same orange color. Spanning July 26

1301

Spotted larvae in feeding net, etc. under July 7. Kaslo B.C. Hd \pm 6 black & bilobed. Body obscure, tubercles high black cones, 3, 4 & 11 marked with white between tubercles traces of white d. abd. lines. Hair single, feet normal. The feet black. 11 weak. (Died July 10)

Phaenocarpa angustata (Muls.)

1302

Platyphorid like coming into head of *Samolium*, stands in flower tail up, concealed, equaling wet face & foliage. Hd shiny brown black, bilobed & to vertex round as if with pointed head not flat, dorsal behind, feet normal small. Soma covered with brown black glaucous, shiny double patch d. bilobed of pale d. line. Venter whitish, shiny & soft. Antennae bilobed shagreened. 1st antennal segment with 2 hairs, 1st & 2nd segments (stale). 3rd segment, 4th segment, d. d. 1st by single hairs, the 2nd segment by 2 hairs.

1303

Ceanothus larva of peculiar aspect. Hd. bilobed green, 1.4 \pm . Ant. smooth, dark leaf green with a dark crimson subapical band 2nd anal plate which it edges, venter edged yellow above. Anal feet green, lateral purple crimson. 2 vent. dark, venter whitish dotted. Feet pale. The hole & seta invisible.

1304

In a soft loose web on willow primarily upper side. Hd rounded greenish, whitish dotted & marked with brown above. Body slender, whitish green, opaque, reticulate dotted & brown forming lateral a broad heavy band, 1st feet light. The feet black. Tubercles minute, setae rudimentary. iv & v closely approx. in line. Ant July 26 Cat 23098 *Anatolites fungivorella* Cl

1305

Wetland on willow Kaslo B.C. July 11 1903. Hd 2.6 now bilobed green, whitish mottled above. 12 obscurely conical, white green, a line broad white fragmented, straight narrow & little interrupted, ant. at ends 2 ant - 13 feet. Tubercles white broken dots for 1st abd. whitish rudimentary yellow. 2 ant - anal feet. Spiracles white black ringed feet green. Stern subgranular with rather sparse white dots. A little notched elevated 10 lower edge.

1306

Falcaria tuberculata on top of bush leaf without net, Kaslo B.C. July 13 1903. Mature July 25. Hd above & below. Body high tubercles set on 3 segs, anal feet with terminal cone. Mottled brown ochraceous line on blackish, the latter color in broken d. 2nd line. 1st ant. and 2nd. Soma yellowish in ground, tubercles brown tipped. Venter shagreened.

1307

Eggs by ♀ 20618 Kaslo, BC July 7 1903. Elliptical, compressed but without flattening, depression slight, concave and rounded. Ret. fine, flat, light faced, of the wavy rounded stellate pattern, not deeply stellate. Shiny pale orange. 8 x 5 x 4 mm (see slide)
 Hatched July 12 (at 1000 pale bottom, eye black mouth brown). Body indistinct normal. Translucent yellowish, a narrow shade brown d. line not reaching either end, dark distinct. Seg. in series slightly folded. T & S. invisible. Feet pale, anal spread (see Epilobium pollen grains) 1 dead July 19

1308

1308

Eggs by ♀ 20827 *Clewisia adusta* Kaslo BC, July 7 1903. Spherical, more scarcely flattened, smooth, nearly reticulate the rets a little elongated vertically. Pale yellow, surrounded by very fine brown fine tan mouth which spread around. D. 8 mm. Very large for mouth.
 Hatched July 19 Hd. 1000 pale bottom, eye black mouth brown. Body indistinct normal. Translucent yellowish, a narrow shade brown d. line not reaching either end, dark distinct. Seg. in series slightly folded. T & S. invisible. Feet pale, anal spread (see Epilobium pollen grains) 1 dead July 19
 Aug 2 Hd. 55 white below, brown black all over rest, mouth large. Body about 10 mm. Aedeagus, 1 & 2 single separate, 1 dorsal, III with 2 hair rather retracted, IV & V single, IV slightly, V 5-6, VI with 2 hairs, about hair a cluster of 4. Plate. Colorless white, broad reticulate in brown, m. 4, 7, 11 aggregated into 3 distinct, 2d patch very distinct, a d. cell line of 1000. No hair. Hair from 1 hair on each elevated, concave, Hair from 1 hair. And Aug 13 Hd. 6 (a isolated II mouth all dead) dead Aug 14

1309

Eggs by ♀ Noctuid 28508 Kaslo BC July 7 1903
 Spherical, slightly spheroidally flattened, smooth and
 smooth, shiny yellowish white, no ribs, ret. flat but
 irregularly hexagonal, arranged somewhat in verti-
 cal rows on the sides. D. 8 mm.
 Hatched July 17 1st and 2nd inst. shiny dark brown. Cth. less
 blackish; body entirely whitish, pale, tubercles in visible. R.
 small, 12 small enlarged, feet 7 & small. Setae pale
 numerous, no other markings. (could not find any July 20)

1310

Eggs by ♀ Horn Hadenia 28476 etc etc Kaslo BC July 8 1903. Laid
 under covers of bark in traps. Clap for eggs from morning 22.
 Rather flatly spheroidal with small flattened ret.
 reticulation, the areas flattened depressed, eggs almost poly-
 hedral, ret. somewhat raised rather than rounded hex-
 agonal; no ribs; no structure at microscope, only somewhat
 smooth. Pale yellow. D. 6 mm. Hatched before July 27 1 escaped
 (remaining eggs sterile)

Trigonophora

1317

Egg by ♀ *Leucaria* 21387 etc Kaslo BC July 16, 1903
 Ellipsoidal, higher than wide, rounded apical-shaped; smooth
 shiny pale yellow, no trace of ribs. Plate linear, irregular
 quadrangular, the ventral line mostly straight,
 faint, scarcely raised, small & rounded on ventral to
 micropylar rosette. D. 6, height 7 mm.
 Hatchling July 27 1st stage. Head, rounded, brown. Cth brown. Body
 underneath feet 7-8 a little smaller, & scarcely enlarged, white
 skin dark speckled, & small brown. Setae pointed. Feet 1 by
 plate mostly thin, clear, conical.
 Aug 6 Hd 5 lobes oblique, brown, mostly shaded, eye black. Body
 with 6-8 a slightly enlarged, feet 7-8 =. Pale whitish with
 faint brown shading, not defined. T. white drab. S. pale.
 Aug 12 Hd 8 lobes brown, dark dotted by 6. Body rather slender
 not tapering a little, in each subsequent. Translucent
 yellowish shaded green from feet. 8-10 lat. band white
 brown cylindrical, sharp edged but obscure. A slight brown
 shading between 8-10 & small black.
 Aug 25 Hd 1.2 pale brown, dark red. T. black. A black band
 between 8-10 & the white. Body rounded, - 8-10 transverse
 reddish brown, 8-10 narrow whitish, a broad smoky
 area to 1. Cth 1 lat. band whitish, not edged, space
 between lat 1-8 smoky blackish in edge, brown centrally
 8-10 whitish, not contracted, 8-10 faint brown ringed
 T. small black contracted. Cth bluish, microloma with
 smaller brown, but lat. band black. Feet pale. Sept 18 Hd 1.4
 Oct 7 Hd 1.7

Trigonophora

1318

Egg by ♀ 21226 etc *Chelodactylus* iris Kaslo BC July 16, 1903
 Nubial spherical, top slightly conical, rounded by the ends
 of the ribs, base flattened moderately. Ribs 12 about the
 margin, diminishing along by alternation to 10 about the vertex
 where they end in a line rising forward & a prominent
 microscopical rosette which is elevated. Cross striations low
 rounded, distinct the cell areas gently concave, twice
 as wide as long a row. Surface subgranular. Pro-
 quered pale yellow. Laid singly. D. 1.0 mm. (slide)
 Hatchling July 27 1st stage. Head, rounded, pale
 brown with smoky black spot, a black line, mouth red brown.
 Body moderately elongate slender, feet 7-8 small, 12 enlarged.
 Cth pale brown. 1st stage not separated. White, tubercled
 black. Setae black, stiff pointed. Hd 1.6 mm.
 Aug 2 Hd 1.8 lobes, oblique, pale brown with black
 spots on the tubercles. Body rather slender, flattened, 12-14
 large lat. feet 7-8 small. Clear translucent grey whitish
 shaded a band, dorsal, dorsal, dorsal, dorsal, dorsal, dorsal,
 the d. space into 8-10 pale rosette. A broad superior row
 blackish band. S-V more whitish. T round black distinct
 like black pointed. Feet pale.
 Aug 12 Hd 1.1 lobes oblique pale brownish on ventral & black.
 Body soft clear green, eye, submicroscopical, 12 round enlarged
 feet 7-8 small. White d. whitish. Spots, double a faint
 edge seg. single, fainter on vent edge; olivaceous blackish
 brown spot shading, enclosing 8-10 & white red, & slightly
 on dorsal & side, forming a broad straight line are 11 to
 8-10 which is broad. Pale green shading to 8-10. T round black
 in shaded. S small black.
 Aug 18 Hd 1.5 as before shiny pale, brown red, & in black spot
 Body olivaceous green, dorsal as before in brown line
 S-V band & S-V blackish whitish.
 Sept 8 Hd 2.2 rounded lobes, pale brown with dark brown spots
 2 broad central black. Body moderate, 12 small enlarged,
 in some prominent rounded, light olivaceous green dotted
 & shaded in dark spot brown shading to 8-10 yellow, 11-12
 on 11-12 oblique striation to dark red. 13-14 lat. band
 with 2 round spots for seg. and on each faint black, 14-15 white
 8-10 narrow, white. S-V dorsal. Brown marked. Feet
 brown marked. 8-10 black, 14-15 black, dorsal. Feet
 Sept 17 Hd 2.8 pale brownish tubercles, 14-15 faint brown
 on 14-15 black marked. Body soft light olivaceous yellowish
 on 14-15 enlarged, all marked. Shaded with patches of
 light black, edged d. line, 9-10 11-12 faint oblique side there
 line edged 8-10 and above. Dorsal line dots just 12 seg. rounded,
 13-14, 15-16 white, 17-18 black edged. S-V dorsal, light round
 brown markings, S-V and mouth marked & brown
 blackish pink. T round black. T blackish white
 dorsal whitish. Dead in slight crown of white till
 4 J 7 Oct 28 1903

Myctophora longipalata
(Clausen and Smith)

Notonid

1321

late green worm on dead wood

Eggs by ♀ Savon 21412-3 Kaslo BC July 17 1903. Slightly adpressed, ellipsoidal, base slightly flattened, top granulated roughened. Rits ± 40, low narrow, nearly round, distinctly 12 at edge of circumference area; cross striae distinct, narrow the cell areas not rounded wider than 1/2. Rits from parallel to the circumference. Pale yellow later with top all reddish B. 6. Hatchd Jul 26 Hd round black shiny, head black, down smooth, 1/2. Body slender elongate, 12 slightly enlarged, semiopaque, feet 7-8 entirely black, whitish at base reddish T. rather large, base irregular normal. Setae very long, irregularly subulate with small bulbous tip. Cth plates small H. black. Shed Aug 4 Hd 4 bilobed pale whitish surface dark brown, a rather thin air sac and obscure setae on tubercles. Body cylindrical, smooth, elongate, no feet in 7-8, thick of 9-10 approx. Pale whitish with long, slender, crumpled line shaded pink centrally on side. Sd. black, surface slightly 3-4, irregular broken, feet pale later long curved, dusky. T. minute dark. (Hd 45 length 4.5 & 11/15 Aug 8) Aug 12 Hd 6 round brown dull brown gray. Body slender elongate, 12-13 almost as before, but color changed. Tubercles uniform blue dark gray brown, mottled, a seta with fine longitudinal streaks of yellowish white add seta last at 24. rather irregular 1 not rigid, 1 pale below feet. Head soft, pale long curved. T. slightly raised, conical, hair dark dark.

1322

Eggs by ♀ Notonid 21254 *Notonecta oblate* Kaslo BC July 17 1903. Still in a large patch. Stage 3 of 4. Sphen base well flattened, top a little obliquely irregular. Rits ± 28 large, coarse, deeply cut, covered by the notonid setae. Then cross striae distinct and giving a cells over twice as wide as high. Dorsal by notonid sheath, ventral quadrangular, red, and elevated narrow-pyramidal. Body whitish D. 9 mm. no change. Hatchd Jul 23 Hd black brown tubercles dark brown, 12 E. small enlarged, feet 14 small whitish, cth corded with black spots. Substrate narrow, slightly distinct. Feet pale thicker blackish. Shed Jul 30 Hd 5 bilobed shiny light brown with a fine dark dot. Body with 5-6 1/2 slightly enlarged, whitish pale in ground, brownish black in dark brown, head feet color. Sd. 12 thin whitish, pale, less distinct at edge. Below 0 black 1/2 pale, no defined line. Feet small. T. rather large black. Tubercles conical. Shed Aug 3 Hd 15 bilobed shiny in shiny tubercles, tubercles of fine irregular mottled brown. Head brownish red a lobes. Head smooth a little smaller before 12 enlarged feet nearly 5. Pale brown mottled with dark faint d. oblique streaks from d. foot to 24 and away from base of side. Sd. 12 pale 1st white dotted, 2nd 12 and 3rd 12 narrow edges narrow white, 4th pale, 7 rows black this shield. Setae fine slender feet pale. Aug 12 Hd 1.1 pale brown tubercles brown on vertex, 4. dark. Tubercles pale brown mottled with dark brown between. Setae. A. 3d thin dotted white dark edge. Setae very dark, head a trace of line bilobely both white edge, it yellow like so. Pale brownish. Feet pale. T. 12 white shield almost. Antennae 1.3 Aug 19. Shed Aug 19 Hd 1.4 pale brown red darker with vertical bands. Setae feet and white edge to white head, all yellowish brown like H. H. 1.3. Shed dark as before, tubercles broken. Sep 15 Hd 2.1 round bilobed shiny pale brown, with dark brown head 1 seta. Pale carmine brown shaded conical. Shed with black point in v-shaped row a d white line and 3d feet ant. D. dark lateral faint 1 broken shiny intensity as general shades edging broken white d. line a narrow white bar on 12. Setae dark, including pale 12. Sd. 12 light brown like dorsal edge of 3d head. Shiny yellowish the filling rather reddish brown. The feet brown black 1 & 6 black, not conspicuous. D. line shown white ant.

Egg by ♀ 21982 *Thyridia swifti* Kaslo BC, July 18, 1903
 Elliptical, rounded, one drooping. base. ±16 narrow raised
 ribs confined at the ends joined 2 small cross striae
 over 2 times as wide as long. Hair end longer and somewhat
 flattened, angulated ret. Pale yellow. Diameter .9 x .6 x .5.
 Laid singly, head in capsule & head.
 Hatched July 27 Hd brown black. Body smooth, feet 2, 12 shaped
 enlarged. Segments 12. Coloration. Shaded dr. Tubercles small
 brown. V higher than iv, no subpronotum. 10th proleg. pale
 on 11 & 12 ii is dorsal to i, though reverse on 5-10 (white)
 Aug 1 (Hd 7) colored black with rows of gray spots radiating from
 a. b. in black on side. Body with 3-4 slightly raised tubercles, 12 also
 enlarged and just elevated. White on 34, dorsum & sides in-
 creased with tubercles gray. 5th seg. dorsum of 23 & 12, 5th seg.
 darker gray. Feet pale, anal dark. 1. small dark. later undulate
 Aug 6 Hd 1.2 black, full. Feet pale, 5 small, whitish. Throat
 black with black spots. Stomach in line. 10th & ocelli. 3 just
 enlarged, also 12, anal just elevated. Very black, marked with
 white d. a 3-4 from then along sides & a black stripe
 & a separate white d. line. 7 small dark then brown
 a little elevated. 5 pale prolegs. Feet pale, anal dark
 Aug 12 Hd 2.2 same. Dark brown. Body brown. velvety, washed
 with white as before, a series of white spots on. Feet
 very pale, whitish. except anal. Resembles *P. eximius*.
 but very pretty contrasted velvety brown black & yellowish white
 Aug 18 Hd 3.0 changed to brown like *Pseudostegia* at first.
 10th seg. tubercles prominent, 5 small. white, faintly dotted
 with brown except in 10th which is ground of 10th. 10th seg. 2
 conical brown. 5 small olivaceous. Body smooth. 3-4
 a little enlarged d. 12 enlarged. Dark brown, blackish
 shaded, ret. d. line narrow, black, dark along sides
 on 2 seg. to spiracles, a light line along spiracles.
 At diff. last conical, feet pale.

A One egg by ♀ 22027 July 23 Hatched July 31 Same
 more by ♀ 22017 July 25 (sterile)

Mr. Collins

1324

Egg by ♀ *Thyridia swifti* 21998, July 23 Hatched July 31 Same
 2/3 of shell base with strongly flattened, narrow & less irregular
 compressed appearance of lapping. Water compressed 1/2 inch of side
 5 small apices with 12/3. Pale yellow D. .75 x .8 mm.
 Hatched July 26 Whitish Hd. large eye & anal pt. by shaded
 no large tubercles black. 5th seg. long, curved, tubercles tipped
 Feet 7 & very short. Body smooth, 12 slightly enlarged. (cf 1273)
 Aug 3 Hd 5.5 shiny black. Body smooth, =, a little flattened
 and just elevated in white brown line. 10th seg. 1 small
 white pale line. 5 small black. a little elevated. 10th
 anal black. Tubercles
 Aug 25 Hd 1.3 just like 1276 q.v. One still left Hd 3.5 same.
 Aug 26 Hd 2.1 same but lighter. dorsal shaded diamonds

1325

Seen on pine (M. Currie) Lake a pine-tree in high dropping
very short and robust and ribs curled, covered with thick
conical bumps from the tubercles. Bright red brown
with white patches. Smooth, setae minute [last color
to J. before described]

1326

Larva in a folded up alder leaf Kaslo BC July 19, 1903
leaf folded to a long edge tied, glass contained -
Hd 1 black diagonal. Body robust, feet short,
smooth shiny black; bases of setae solid white line
arterial, more continuous but dotted last, very broad
slightly bent, partly solid filled and containing the
black rounded spiracle and is a v. shield black.
Internally small black. Ant Cat 39358
Same at Shawmigan Lake BC Aug 30 1903. Slightly more rounded
with a few dots about spiracle.

1327

Cocoon on Birch Union Lake Aug 3 1903. Small.
Aug 6 2.2 to 2.5

61

1328

Eggs by 2 Noctuid 21251 Kaslo BC July 19 1903. In a high pile
4 layers deep in fact irregularly shaped up. Fluffy, spherical
base well flattened after irregular. Rits + 50 at top
margin showing obvious towards vertex, fine close, ribs
at the summit with more obvious giving cells larger than
wide slightly hollowed, the ribs looking beaded under a
low power, really unrolled & the cell areas, vertex set. about
the microscopic scale which is not raised. Pale greenish
bluish green. D. 7 heights 4 mm. Hatched July 24 1st inst from
large black spot on the tubercle and bases from junction of ribs
Body markedly slender, spiracular, feet 7-8 small, 2 slightly
enlarged. Shield pale brown blackish on edges & tubercles. T
very large, angular, rounded black narrow. Setae black from
by plate black. Hair sparse dark spinular.
July 30 Hds 5.5. Internally with brown tubercles spots. Body rather slender
contracted some 5.5, narrow at 12 enlarged a little. Head
green d. 8.5, lat 1.5 head mostly hair a little more whitish
than ground. Feet pale T. round black. C. sh a little more
shiny Aug 1 (Hd) 6.5 shiny brownish, dark spots on T. and small
black on vertex. Body rather narrow 10-11, 12 enlarged. June 7-1
small. Dark green d. 8.5, lat 1.5, faint lat. line white, dark per. edge,
space bet. lat. & lat. all dark green. Slightly bent, white. S. green,
shades with dark, feet pale. Tub. all black, round, not large,
pale ring minute. Small yellowish spots on vertex, blackish
July 31 Hds 1.8 pale brown (shaded) on vertex, blackish on
spots. A pair of little dots at apex of head. Body, rounded, 10-11
enlarged, green, shiny, dark with blackish green edging the
white broken d. 8.5, lat 1.5, faint lat. line a shiny streaking d. 8.5, lat 1.5
and a sides about from white tub. S. blackish dark
feet pale T. white with black hair dots. S. green.
No shield. June 4 ends. This just emerging, July 1.
Same about Aug 6 Hds 1.7 same. Aug 12 Hds 1.6 same
Aug 12 Hds 2.2 and 2.4 alike, latter just shed. now apex & c
internally heavily circular mottled with dark brown with v. small
spots. Body round, 12 greatly enlarged, feet =. head creamy
brown, heavily mottled & black & round obscure. D. 2.5
lat. white dotted. S. brownish. Ably black shield &
d. 11, ii large white. Side like dorsum but pale by
absence of oblique shades, spaces of white dotted, S.
white, dotted, filled with fine color. S. like sides. The
feet red brown with pale whitish. T. 3 obscure.
Same and not.

Mamestra modesta 61

Cassida n. sp.

1329

Egg by ♀ Tephrosia 21397 Kaslo BC July 19 1903. Elliptical, flattened, broad antennae, end end rounded, very thin, less so at base. Ribs rounded, low raised from a minute surface, neat, rather narrow, hexagonally net, raised, not strongly stellate. Shiny yellowish white. $6 \times 3.5 \times 2.5$.
 Hatched July 24 Hd olive, black lab, black, eye, black. Body somewhat not elongate, soft almost granular. White immatures, black, a few a black streak. Tubercles moderate, blackish, hair dot elevated, setae rather long with enlarged tips (died).

more by 21719 p. 204

Cassida n. sp. Kaslo BC

1330

Egg by ♀ Seon 21613, Kaslo BC July 20 1903. Elliptical, well flattened, not distinct great areas, rounded, each much alike, without marked transition or depression, ribbed, about 10 on flat side in center, diminishing to both ends, irregular by angle of rib, not distinct, narrow, and not nearly through at each side, cell the resulting elevation acute, cell by two lines and in line with the ribs. Color of yolk white. Blastula cross shows as four rounded, none in a half on ground of the ribs. Surface somewhat granular, oblique. Microfrylar and white ribs centrally, orange ochraceous. $11.0 \times 6 \times 4$ mm. Yolk set red.
 Hatched end of March 1904 Hd round, flat before, brown black, elevated, but not a few apices in. Red short, robust, and in circular shape, lid, touching tent. C. H. & black, white, green, brown, rounded, opaque, a deep brown red, brown feet 8-10 & 13. Hatched on 7 (evidence of hatching) ♀/1338

1331

Egg by ♀ 21567 Marble Hill July 21 1902. Laid in a mass under the number label which was stuck to glass by them. 75. Spherical, considerably narrowed above, base flattened somewhat irregular. Ribs 48 most distinctly full edge of large vertex where is a mass of irregular crumpled ridge. Side of ribs wavy, cross by faint striae which meet at an angle in the depressions, these being vertical flat bottom. Microscopical rosette raised. Pale yellowish red rings spot D 5. Hatched July 27 and all yet in a pile under the label. 1st larva with 1st plates distinct black. 2nd white dorsal dark granular. 7. large angular. Setae with clean button tips, rather long. 1st robust, 12 only, feet 7-8 smaller. (divided) 2nd Aug 4 1st 4 rounded above black, narrow lower. Cts. small, 1st plates, 1 round tubercles above black. No. 2 robust =, dorsal dark brown with very faint whitish d. set. 1st small, 12 only, feet with all defunct edges. Setae coarse black with enlarged tips, all tubercles pale, 12 only. Feet 7-8 a little smaller.

1332

Egg by ♀ 21493 Wamego Marble Hill July 21 1903. Laid in a large irregular patch. 75. Spherical, base flattened. Ribs ± 56 a good few missing, surrounding by confluent, raised wavy, cross striae more distinct. Setae above ribs subulate. Microscopical raised. Pale yellow. D. 6 mm.

1333

Eggs by ♀ Noctuid 21970 Bear Lake B.C. (see notes) July 21, 1903.
 Hatched July 22, 1903. 7/25 observed, face flattened. Head highly
 somewhat irregular. Ribs 4-10. Winding by confluent
 confused into dense quadrangular ribs on summit. Ribs
 raised. Ribs with sharp angular summit & cross
 striae fine yet distinct forming cells 2x as wide as long.
 Vals yellow. D. 8 mm.

Hatched July 25, 1903. Hd. 1.4. Body brownish, thin. feet small round. and
 legs slender also black. Body whitish, later with a brown
 stripe between 10 & 14. Setae short, dark. (9/12/03)

Head Aug 1, 1903. Hd. 1.7. Lateral brown dotted at vertex. Body moderate
 of enlarged. White. Gen. A. 1st line white, a broad lat
 brown stripe. Tubercles black moderate. No dorsal. But pale
 Head Aug 6, 1903. Hd. 2.3. 1st line 1st line 1st line 1st line 1st line
 greenish then later yellow rather as oblique streaks
 1st line 1st line 1st line 1st line 1st line. D. 1st line
 white dotted. 1st line 1st line 1st line 1st line 1st line
 at ends. 1st line 1st line 1st line 1st line 1st line. 1st line

Head Aug 14, 1903. Hd. 1.9. Shiny dull and dull, the lower reaches basal
 legible a light side stripe. 11-12 enlarged. Dorsum brownish
 white. brown stripes. 1st line 1st line 1st line 1st line 1st line
 dorsal, gathering into a single line 1st line 1st line 1st line 1st line
 1st line 1st line 1st line 1st line 1st line. D. 1st line 1st line 1st line 1st line 1st line

1st line 1st line 1st line 1st line 1st line. 1st line 1st line 1st line 1st line 1st line
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 1st line 1st line 1st line 1st line 1st line. 1st line 1st line 1st line 1st line 1st line

Head Aug 15, 1903. Hd. 2.2. Very finely and the mouth almost
 1st line 1st line 1st line 1st line 1st line. 1st line 1st line 1st line 1st line 1st line
 1st line 1st line 1st line 1st line 1st line. 1st line 1st line 1st line 1st line 1st line
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 1st line 1st line 1st line 1st line 1st line. 1st line 1st line 1st line 1st line 1st line

Head Aug 22, 1903. Hd. 2.6. Same as 2.2 Aug 14.

11/9/03 in dist. 1st line 1st line 1st line 1st line 1st line

A by ♀ 22667 July 27 Hatched Aug 4. = 1334. Aug 14. Out
 Subst. with yellow & white upper edge, dark pink
 filled below. 5/4 space dull blackish. Feet pale. The one
 worm. T. 1.5 obscure.

169

1334 *Blindworm abstracta*

Eggs by ♀ Noctuid 21706 Kaslo B.C., July 22 1903. Head in
 a high pile 3 or 4 layers deep centrally. 7/25 observed face
 more or less flattened, somewhat irregular. Ribs 4-10 about
 the margin, diminishing by confluence. Winding almost quite
 to the raised margin. Ribs 1st line 1st line 1st line 1st line 1st line
 1st line 1st line 1st line 1st line 1st line. D. 1.0 mm. Later with dark red ring & spot.

Hatched July 29, 1903. Hd. 1.4. Body brownish, thin. feet small round. and
 legs slender also black. Body whitish, later with a brown
 stripe between 10 & 14. Setae short, dark. (9/12/03)
 Head Aug 1, 1903. Hd. 1.7. Lateral brown dotted at vertex. Body moderate
 of enlarged. White. Gen. A. 1st line white, a broad lat
 brown stripe. Tubercles black moderate. No dorsal. But pale
 Head Aug 6, 1903. Hd. 2.3. 1st line 1st line 1st line 1st line 1st line
 greenish then later yellow rather as oblique streaks
 1st line 1st line 1st line 1st line 1st line. D. 1st line
 white dotted. 1st line 1st line 1st line 1st line 1st line
 at ends. 1st line 1st line 1st line 1st line 1st line. 1st line

Head Aug 14, 1903. Hd. 1.9. Shiny dull and dull, the lower reaches basal
 legible a light side stripe. 11-12 enlarged. Dorsum brownish
 white. brown stripes. 1st line 1st line 1st line 1st line 1st line
 dorsal, gathering into a single line 1st line 1st line 1st line 1st line
 1st line 1st line 1st line 1st line 1st line. D. 1st line 1st line 1st line 1st line 1st line

1st line 1st line 1st line 1st line 1st line. 1st line 1st line 1st line 1st line 1st line
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 1st line 1st line 1st line 1st line 1st line. 1st line 1st line 1st line 1st line 1st line

Head Aug 15, 1903. Hd. 2.2. Very finely and the mouth almost
 1st line 1st line 1st line 1st line 1st line. 1st line 1st line 1st line 1st line 1st line
 1st line 1st line 1st line 1st line 1st line. 1st line 1st line 1st line 1st line 1st line
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Head Aug 22, 1903. Hd. 2.6. Same as 2.2 Aug 14.
 1st line 1st line 1st line 1st line 1st line. 1st line 1st line 1st line 1st line 1st line
 1st line 1st line 1st line 1st line 1st line. 1st line 1st line 1st line 1st line 1st line
 1st line 1st line 1st line 1st line 1st line. 1st line 1st line 1st line 1st line 1st line
 1st line 1st line 1st line 1st line 1st line. 1st line 1st line 1st line 1st line 1st line

1335

Egg by ♀ 22196 *Merimista ophta alvina* Kaslo BC Jul 22 1903
 Elliptical flattened above, blue, green, a red rim on one side
 smooth. $2.2 \times 1.9 \times 1.8$ mm. Hatched Jul 24 green, low red

1336

2 eggs by ♀ 22030 Kaslo BC Jul 23 1903. Nearly spherical
 base slightly flattened. Ribs ± 48 around the margin diminishing an-
 gually by comparison. Grooves almost linear, low the surface
 flat between joined by weak narrow cross striae forming square
 cells. Pores scattered, small, not raised, waxy white. D. 7
 Hatched Jul 31 (escaped) Other hatched Aug 1 and also escaped.

Merimista insignis

1337

Egg by ♀ hatched 2/199 Kaslo BC, July 23, 1903. Spherical
 slightly above. Higher than wide but becoming conical, rounded
 at a little flattened. Ribs ± 48 diminishing above, rather
 low, well elevated, joined by fine obscure cross striae
 forming small square cells. Pores regularly set, about the
 mic. pores which is scarcely raised pale yellow. D. 7.5 mm

1338 [see index 1350]

Eggs by 22 21391, 21204, 21205 etc *Cacumulus confusus* Penn? Kaslo BC, before July 24, 1903. Spheroidal, symmetrical, base not more flattened than vertex. Sculpturing obsolete. Under a lens the ribs are faintly shadowed, dark, diminishing above, and under 87 distinct. They are evanescent and faint rounded net. Shining over surface. Mic. rosette rather distinct. Pale ochraceous. D. .8 Latent in groups strongly adherent. One hatched Aug 7 but died. Others unhatched (see slide). More hatched Aug 15 and after Aug 15 and.

Aug 21 Hatched 5 mm. black, ch. blackish. Body moderate, =, brown. Tubercles light, of 1st lat. most as thin whitish d. of head. Some also like dark edged, in edge at giving effect of light of 3d tubercle. Setae dark. Gilled bottom lines, 55 thin distinct whitish & succeeded by 6 dark 1st area. T. 5 dark obscure.

Cacumulus parvulus W. & B.

1339

Eggs by 22 21687-21688 Inverness Kaslo BC July 24 1903. Latent, rolling about. Pear-shaped, a slight flattening at vertex and base. Ribs distinct, sharp with rounded tubercles between. About 36 at side diminishing above by confluence. Ret. fine obscure forming \square cells. Thor ribs become small at vertex and one pair of striae merge = 2 there and run parallel to mic. rosette which is scarcely raised. Pale yellow. .7 mm. (Sterile)

Cacumulus parvulus W. & B.

not copied - Col.
course as
labeled.

1342

Egg by ♀ from 22369 Kaslo BC July 25 1903. Slightly 7/8
spherical, base strongly flattened, round, not spheroidal.
D. 2.0 about the average diameter above slight neck with
three fine obscure ridges broadly obscurely reticulate. Smaller
to the side, smooth, whitish, yellow tinted. D. .8 mm.

Hatched Aug 4 Hd blackish white with a macula showing, black on
sides, showing outline darkly but avoiding D. Roof robust =
Shield 1/4. Blackish brown, this dull white, a reddish pink
on at base of eye. Setae pale stiff, distinct, attenuated
tips. Inclined to tip minutely enlarged.

Aug 12 Hd .4 blackish greenish black, Roof = 1/2 slightly
enlarged, reddish gray green, 4. slightly elevated black
shield smooth, low hump perceptible. Setae slightly
annulate, in present. whitish. Setae pale a little
curved, rather long i.e. iii from above backward.

Aug 19 Hd .6 (second) wide, lobed shiny dark brown. Setae
moderate, =, reddish dark brown, in some places reddish
T. red lines straight, pale, reddish on dark brown. T large
blackish. Setae stiff, dark, not long.

Sept 8 Hd .9 elongate, black, and rather long white at base, tip
black. On outer black with 3 white lines. Roof moderate,
large for hd, reddish brown brown, d. sp. broad pale side
dark. Setae small, whitish but all sharp, not contracted.
D. 1.1 line dark as diffuse shades, whitish T. black
long, small. Setae pale curved. By plates: the 1st black
2nd 1/2 3rd 1/2 4th 1/2 5th 1/2 6th 1/2 7th 1/2 8th 1/2 9th 1/2 10th 1/2 11th 1/2 12th 1/2

Sept 14 Hd 1.3 Same, d. line rather distinct pale, darker
showing on other rounds.

Sept 15 Hd 2.0 Rounder, apex in, shiny black smooth brown
black shiny blackish pale brown shaded and by
faint narrow pale d. line. Roof moderate, 12 slightly
enlarged. D. sp. broad pale brown, dark brown dotted
highlight at its edge but without defined central pattern
except a 12 the light of and incised more than elsewhere
light brownish black shaded, distinct 1st & 2nd. Setae
lighter, but shades are line obsolete. 3 large velvety
black. The feet blackish, old brown. Trace of d
line above obsolete. Setae in eye feet, T. in white
ring, dark. Setae moderate pale.

Caradorea extrinica

[7] 26 04

1343

Egg by ♀ from 22396 Kaslo BC July 27 1903. Elliptical, very
strongly flattened, narrow, slightly wider, broad in side
view ends rounded. Evenly reticulate in broad rounded
ridge, very stellate, less spread, rather smaller on the
flat sides. Dark bluish green, rather red around the
margin. .8 x .5 x .3 mm.

Hatched Aug 3 Hd round brownish brown, outline darker.
Roof moderate, rather short, brown, a dark green line black
showing on dorsum except a small part. Setae mostly dark
black. No shield. T. 3 obscure, 4 slightly elevated but rounded
setae short pale with small enlarged tip.

Aug 8 Hd .5 brown, slightly lobed. Roof moderate
greenish green with head & purple brown stripe. Setae narrow
pale like coloring, 1st region. Feet dark within. T. 3 black.

Aug 12 Hd .9 round full. Blackish before greenish white with a
slight brown mottling on sides. Roof moderate, green, the
dorsum with 5-8 obscure blackish bands or dots on
interstices. Venter brown mottled blackish. On shield
the feet distinct, black, old. Setae whitish. T. moderate
setae fine dark.

Aug 14 Hd 1.5 black, shiny. Pale green brown with
white shades, a brown black on sides, a black eye and
ant. whitish. Roof uniform, rather flattened, with
feet large, clear, whitish with strong green, a broad
d. subventral line more whitish. Setae pale yellow
a ventral narrow brown shade staining bases of feet. T.
setae 5. Setae dark obscure. A 5th dark black on 6.

Aug 21 Hd 2.2 black, thicker at apex, pale brown
shaded, a broad dark brown band across above 5 and on
yellow on 6 and behind eyes. Roof moderate, uniform
a somewhat raised black patch 3-4 on 6. All
yellow brown shaded. D. 2d lat. 14 greenish blackish
line below, shading the d. as a narrow, spots but
the whole body more uniform, giving an effect of
obscure sep. lines bands centrally. Dark blackish
at base of eye, feet 4, 7 small, dark. Setae dark
rather long, fine. Feet pale, whitish black edged.

178
Adelphomyia fusca Fab

1344

Eggs by 29 77 1347 22670-1 Harlowe July 27, 1903.

[illegible]

1345

Dear Mary!

Egg by ♀ *Acronycta* 21714 (thought to be 1246 but much smaller) Kaslo
B.C., hatched July 30 1903. Egg later 1246 but then varied a bit
to *Acronycta* *rossetti*. Body very pale almost w. D. l. l. Color
became a purplish black. Besides the heavy brown spots,
Head: many haired 4 or 5. Hd gray long labial, whitish broad
under brown & ventral. Body slender, 5, 8-9 and 12 segments
black & in dark brown, more obvious in 5. Col colored like
top of head. Hairs long black & except on 11, on sides & ventral.
Ant. hairs single bristled, no comb. On 1st 1st & 2nd segments
later color more pale out of brown but all the points are black.
on base of 11 narrow w. Scl. lat. 2, 4 narrow, 5, 8-9 & 11 distinct
dark brown w. all the other seg. greenish white.
Food Aug 5 Like 1249 II. (Caged out) = 1249 Aug 14.

1346 = 1296

1 minute on egg by ♀ Noctuid 22297 Kaslo B.C. July 30 1902. 7/8 hatched
 Head below like 1296, rather broad, round at vertex, can show
 greenish obsolete; dorsally above the vertex on irregular
 ridged work; a depressed saucer shaped area about mic.
 areolate, subreticulate, somewhat radially grooved. Pale
 yellow with reddish spot near vertex. D. 88 mm
 (all moults)

1347

Egg by ♀ ♀ leaves 18867-8 Nelson B.C. Aug 21 1903. Ellipsoidal.
 Dorsal & apical sides strongly concavely flattened, ends
 rounded and rising slightly, occuring any depression or
 depression. Smooth. Pale yellowish greenish, occuring any
 color, shiny. 1.3 x 1.0 x .7 single cell, all covered with
 very scales. Surface smooth only with balls (normal?)
 Green black brown. Hatched Sept 8 1903, head slightly below
 pale red brown, head rounded, rather short, plate very, not large
 spots at i vi pale brown, 8-9 fold, feet & anal plate pale.

Empidon flaviventris H.

1348

Cicuta? larvae from Mrs. J. W. Hamblen, Victoria B.C. Aug 26
 1903. Have long whiskers behind, Hd. 2 and 2.5 face black
 front point and vertex broadly pale brown. Body soft smooth
 brown a broad straight dull red d. stripe and row of
 dry tubercles, the latter very slightly contrasted. Hair
 brown, stiff, imbedded but rather fine, equal in length
 replace except from 12 joint 13 where a long tuft of
 appressed curved hair arises as long as half the larva,
 a horse soft straightened. Hair all dark brown.
 (all moults)

1349

Approximated a slender Shawinigan Lake B.C. Sept 1, 1903
 spin a large delicate web on upper side of leaf but not
 not web leaf at all. Hd elongate elliptical obscurely
 greenish. Body black, narrow at ends. Segs 3-5 annulate
 green, a diffused yellowish shade on the 2 large annulate tub.
 from i to 10 slightly bright about the tubercle. T. small black
 1-11 in line, 12-13 small. Cth brown marked with black tubercle
 smooth, 14 dorsal a or fold, vi larger, vii multiple.
 On May 11 1904. Cat no. 39364.

1350 =

larva on leaves, Shawinigan Lake B.C. Sept 1, 1903
 about normal, Hd light green. Body light leaf green
 id very broad bright yellow greenish contrasted whitish
 on the edges narrowing black border. Dorsal covering of
 tubercles more strongly green central and ventral tub.
 black edge below. Venter of greenish white. T. 8 in middle,
 feet green, black edged. T. Sept 8

1351

Egg by ♀ Tephroclyptis (Taylor's brown spot) Malheur B.C. Sept 3.
 Ellipsoidal, strongly flattened, plane, 1 below 1 above 1 depression
 very slight. Pale body, round subequal not round. Green, flattened
 annular. 88 x 4 x .3. Green? brown dark red, faint, flattened
 hatched Sept 10 1903, pale head, head rounded, 14-15, rather robust, feet
 dorsal plate yellowish, at anal angle, feet spreading in which a scale

289 Wakeham's Pond, fresh, filled seawater pools. Salt. Behind large sand dunes. First collection all same size reaching III by July 4. Died in rows and piles by drying of pool. July 5. Some kept in jail still larvae July 22; also emerging collembola and later many Synsira.
 July 13 high tide on meadows. Many collembola hatched in grass. In IV by July 19.

290 In effect of permanent pool which had no wiffers with 289 some larger ones (sent to Kinoh). Same pupae. Isolated July 4. C. cantata?

291 In fresh spring water adjoining 288 pool, July 5, small long tubers, salinarins? Tubitars July 18. died

292 In fresh spring pool a 1/2 mile back in the country Wakeham's July 5, 1904. Small short tubers. Dead July 22. I can not explanatus by table - See slide

1355
 Eggs of Monoleuca semipuncta from W. F. Fisher, Taylor, NC. July 7, 1904 (died July 12). Laid in groups but hatching separate and overtopped with a thin coat of brownish hair from the mouth. Elliptical, dark yellow, quite thick and not flattened. $.6 \times .4 \times .3$ mm. The skin is smooth, shining, but irregularly wrinkled in a sort of coarse reticulation. The covering hairs are rather long, straight and opaque white, often curved or bent at one end and radiating from the egg surface. Laid in groups of 8 to 16, spaced about their own width. Suggests Lycopodium. (Stence)

1361

Eggs by *Quilarche albocincta* Aug 4 1904 (cat no. 39414)
 Weekahang R.S. Laid in large petioles overlapping like
 shingles, very prolific. Bl. about 1/2 at margin, slightly
 wavy and beaded & the submargin is a thin, shining
 to warty which is irregularly pitted. Circumfer. flat.
 Low irregular domes. Waxy white, slightly shining.
 Mean 9. H. about 2 mm. Late imbricate and 1 few scattered setae.
 Hatched Aug 11 Hd rounded black flatish base. Body rather
 robust, equal, white 2, 5, 8-9 & 12 stained with red brown
 & very large, angular, prominent, almost touching. 10-11 &
 3 beaded, 11a & 11b separate single, 11b small, iv & vi single
 5-6 with 12 long hair. 20-21 setae detached, 2 hair on
 pedicels (2 a & 2 b setae). Abd. 1-5 beaded, 3 a & 3 b
 longer, 11 & 12 single but large, 10 small setae, v
 subulate, long petioles black with small black. On 11, i &
 small & only 3 beaded, all weak even the joint between
 a & b. Setae short, black, blunt-tapered, 10-12 ones weaker
 than first black.
 Shed Aug 16 Hd 5 shiny black. Body whitish brown in middle
 joint on 5, 8-9 & 12. Cyl. warts & feet black. First large
 round many haired hair black. Pale or even. 11 weak.
 Shed Aug 20 Hd 7 white, 8 shiny red side on, velli, & weak to
 11. Spine in anterior black. Body mostly black d. 1, lat &
 12, leaving a broad sd. 10 pale yellowish. Head, 6,
 8-9 & 12 are more black d. Hair stiff black, white, wavy
 pale over, cv. Feet dark.
 Shed Aug 26 Hd like black, apertures white, dull white spots
 all of bases mark on warty & pale to apertures after 5,
 warty on 11-12 & side. Hd rounded bilobed shining
 body robust, vent large rounded, black warts reddish
 large, covering more of field than joint color, sd cv
 single, orange, feet of same color. Hair black, white
 stiff. Head & blackish shaded. 11 weak 12 a little setae
 11a sd & 10 shiny yellow, warts i, ii, iv, v large and, lat, black 1
 with yellow spots between a sides.
 (But not Aug 29 as probably have rest)

1362

Eggs by *Zenaidura* (cat no. 39415) Weekahang R.S.
 Aug 4 1904. Laid rather freely, singly and adherent in masses
 resembling shingles, soft, shiny yellowish white. About
 25 low rounded ribs, wavy, curved at margins, shining
 irregular & confluent. Venter a little depressed subreticulate
 the hemispherical raised, very shiny under 1/2 inch obj. D.B.
 Hatched Aug 11 Hd 1 each shiny black flatish base.
 cylindrical, 12 enlarged a little d. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
 warty, 7 small but distinct with pointed dark setae
 10-11 & 12 separate, 11 d. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
 a small plate lat = small black ring bottom base & lat
 1 clasper. The feet blackish. Anal plate small black.
 Shed Aug 17 Hd 4 dark brown with joint reddish blackish
 sides. Cyl. luteous with dark sd stripe. Body somewhat
 robust, equal feet meagre, whitish, green from food.
 Gray black add, sd & lat broad bands. 10-12 as broad
 as spaces the sd somewhat fainter & slenderer than the
 others. Subst. and mouth faint whitish. T black small.
 Shed Aug 21 Hd 6 luteous, mouth brown, a narrow black
 line on side of 5 anterior going a double line above. Some
 slight mottling, in sides. Body rather slender uniform olivaceous
 black above, white narrow d, sd, lat, & broad subventral pale
 white line, venter pale green. T. & thick visible. Feet pale.
 Shed Aug 23 Hd 7.5 a & b. Body as before, later mostly a sides
 (all died by Aug 29)

1363

Larva on winged sumach (*Rhus copallina*) Westbury R.D. Aug 9 1904. In short web a back of leaf, a broad ridge with 10th cusp open, white like spider web. Several layers thick. Leaf curved a even folded up. Larva slender rapid, all green. No long rounded shining spots. Lustrous, full black. Red moderate slender, and a little tapered translucent pale green from inside. 2 round dark. Should & T convolution, minute pale green line with white on 13. Thorax slightly elevated. Full meaning in square, IV+V. all perfect convol. 1st large, 2nd, shiny, concolorous. Feet brownish, concolorous. No warts.

1364

Hylotoma sp. on *Juniper* var. Westbury R.D. Aug 12 1904. 1st high, rounded, orange color, yellow black. Prothorax 1st large, 2nd, the feet large black spread, abd 6-12 & 13 black. Dorsum light violet purple. 3-5 regions bright red orange on the thorax. Venter violet. Tubercles large, shining black, concolorous elevated. 2 on d. line, separate & rising paired on thorax, close approp. & concolorous. 1st & 2nd, 1st very prominent & pilose on thorax, on orange hump behind spine. Large oblique sv, with orange base, with orange & pilose on thorax. Anal tip, orange. 2 on abd. 2nd, 2nd small and 1 tubercle.

1365

On *Myrica* leaf found on pasture & edge all around. Eggs white within 2nd field of soft web and grass. 1st flat brown black. 2nd black. 3rd black. 4th black. 5th black. 6th black. 7th black. 8th black. 9th black. 10th black. 11th black. 12th black. 13th black. 14th black. 15th black. 16th black. 17th black. 18th black. 19th black. 20th black. 21st black. 22nd black. 23rd black. 24th black. 25th black. 26th black. 27th black. 28th black. 29th black. 30th black. 31st black. 32nd black. 33rd black. 34th black. 35th black. 36th black. 37th black. 38th black. 39th black. 40th black. 41st black. 42nd black. 43rd black. 44th black. 45th black. 46th black. 47th black. 48th black. 49th black. 50th black. 51st black. 52nd black. 53rd black. 54th black. 55th black. 56th black. 57th black. 58th black. 59th black. 60th black. 61st black. 62nd black. 63rd black. 64th black. 65th black. 66th black. 67th black. 68th black. 69th black. 70th black. 71st black. 72nd black. 73rd black. 74th black. 75th black. 76th black. 77th black. 78th black. 79th black. 80th black. 81st black. 82nd black. 83rd black. 84th black. 85th black. 86th black. 87th black. 88th black. 89th black. 90th black. 91st black. 92nd black. 93rd black. 94th black. 95th black. 96th black. 97th black. 98th black. 99th black. 100th black.

a. Larva 1st. 2nd. 3rd. 4th. 5th. 6th. 7th. 8th. 9th. 10th. 11th. 12th. 13th. 14th. 15th. 16th. 17th. 18th. 19th. 20th. 21st. 22nd. 23rd. 24th. 25th. 26th. 27th. 28th. 29th. 30th. 31st. 32nd. 33rd. 34th. 35th. 36th. 37th. 38th. 39th. 40th. 41st. 42nd. 43rd. 44th. 45th. 46th. 47th. 48th. 49th. 50th. 51st. 52nd. 53rd. 54th. 55th. 56th. 57th. 58th. 59th. 60th. 61st. 62nd. 63rd. 64th. 65th. 66th. 67th. 68th. 69th. 70th. 71st. 72nd. 73rd. 74th. 75th. 76th. 77th. 78th. 79th. 80th. 81st. 82nd. 83rd. 84th. 85th. 86th. 87th. 88th. 89th. 90th. 91st. 92nd. 93rd. 94th. 95th. 96th. 97th. 98th. 99th. 100th.

193

1366

Larva under white web, like 1363 but on *Myrica*, Westbury R.D. Aug 19 1904. Green a broad diffuse pale yellow 1st band. 2nd rounded flat & depressed, green, rounded whitish. T. rather large slightly elevated concolorous. 1st meaning in brown, IV+V. Setae concolorous 3-annulated. Oct. 1st 14 1904 Cat no. 39531-2

Coccinella leucosticta Hbn

1367

NA Series LXVI

Egg 2 larger 34344. Egg elliptical, ends rounded, depression slight. The sides concolorous with chestnut green. Pits coarse, even, white raised & rounded, irregular hexagonal. .6 x .3 x .25 mm. Oct 19 1904. Larva 1st. 2nd. 3rd. 4th. 5th. 6th. 7th. 8th. 9th. 10th. 11th. 12th. 13th. 14th. 15th. 16th. 17th. 18th. 19th. 20th. 21st. 22nd. 23rd. 24th. 25th. 26th. 27th. 28th. 29th. 30th. 31st. 32nd. 33rd. 34th. 35th. 36th. 37th. 38th. 39th. 40th. 41st. 42nd. 43rd. 44th. 45th. 46th. 47th. 48th. 49th. 50th. 51st. 52nd. 53rd. 54th. 55th. 56th. 57th. 58th. 59th. 60th. 61st. 62nd. 63rd. 64th. 65th. 66th. 67th. 68th. 69th. 70th. 71st. 72nd. 73rd. 74th. 75th. 76th. 77th. 78th. 79th. 80th. 81st. 82nd. 83rd. 84th. 85th. 86th. 87th. 88th. 89th. 90th. 91st. 92nd. 93rd. 94th. 95th. 96th. 97th. 98th. 99th. 100th.

1st. 2nd. 3rd. 4th. 5th. 6th. 7th. 8th. 9th. 10th. 11th. 12th. 13th. 14th. 15th. 16th. 17th. 18th. 19th. 20th. 21st. 22nd. 23rd. 24th. 25th. 26th. 27th. 28th. 29th. 30th. 31st. 32nd. 33rd. 34th. 35th. 36th. 37th. 38th. 39th. 40th. 41st. 42nd. 43rd. 44th. 45th. 46th. 47th. 48th. 49th. 50th. 51st. 52nd. 53rd. 54th. 55th. 56th. 57th. 58th. 59th. 60th. 61st. 62nd. 63rd. 64th. 65th. 66th. 67th. 68th. 69th. 70th. 71st. 72nd. 73rd. 74th. 75th. 76th. 77th. 78th. 79th. 80th. 81st. 82nd. 83rd. 84th. 85th. 86th. 87th. 88th. 89th. 90th. 91st. 92nd. 93rd. 94th. 95th. 96th. 97th. 98th. 99th. 100th.

Sept 16 1955

Shed Oct 10 Horn of 2 a little longer than 400 but all very short, 6-11 still shorter, 12 a little longer, 13 very long and hair-like. Side horns all very short. The lower narrow horn is yellow-orange the 4 horns of group under with 5 or 6 small patches, many divided at 8 where the patch is replaced by red and in brown and. The last patch 11-12 is a little brown, 13 almost green. Horns light red. Side all clear green. A broken white line along 2, 3 irregular white marks in the last dorsal space. Skin granular. Spin pale. No caltropes except perhaps 2 or 3 on the head and few spots on brown D13. Dorsal yellowish dots 11 present with white rings. A white line running along the length.

Shed Oct 24 Has caltropes fully developed. Evidence of VIII.
(to spin Nov 7 after eating dead leaves in the house)

679⁵/₈

